

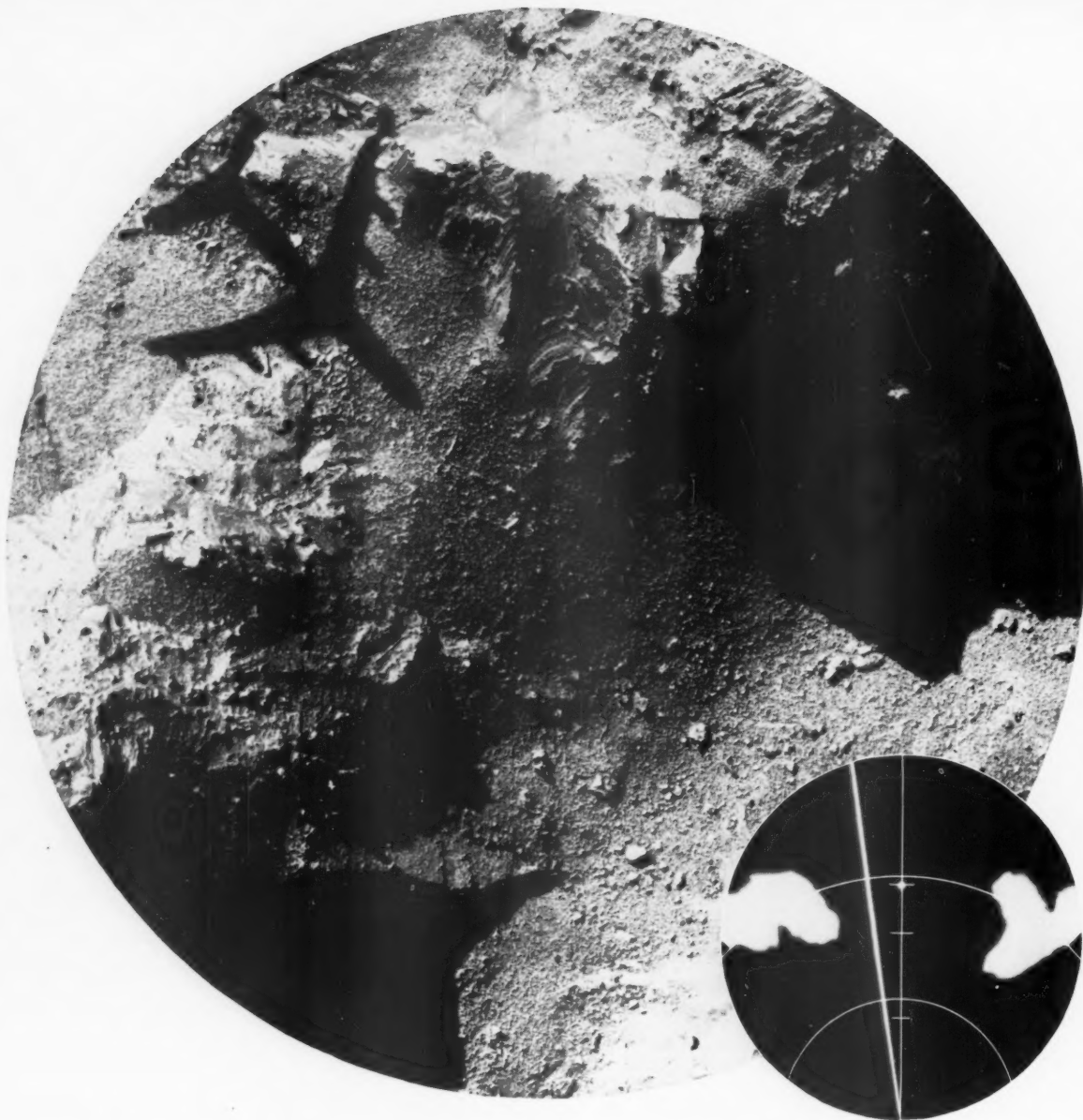
ARMY

DECEMBER 1961 • 60¢

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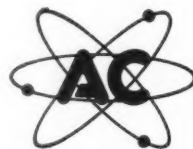
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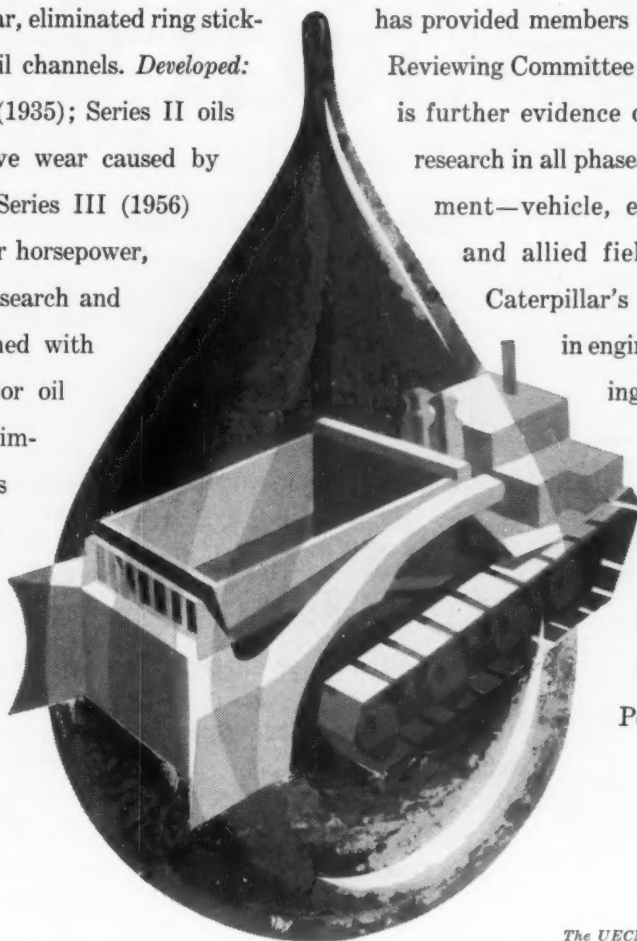
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ARMY

A PROFESSIONAL PUBLICATION DEVOTED TO THE ADVANCEMENT OF THE MILITARY ARTS AND SCIENCES AND REPRESENTING THE INTERESTS OF THE ENTIRE U. S. ARMY

The able young men now entering the Army will mold it for years to come; at the same time the Army will make them good patriots

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COVER: A river-crossing operation is difficult, dramatic—and pretty, as our Signal Corps cover photo of an M113 of the 25th Infantry Division making a training crossing in Hawaii demonstrates. But as our author on page 46 emphasizes, a river crossing is a means and not an end.



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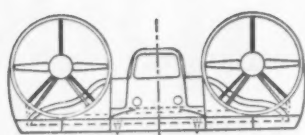
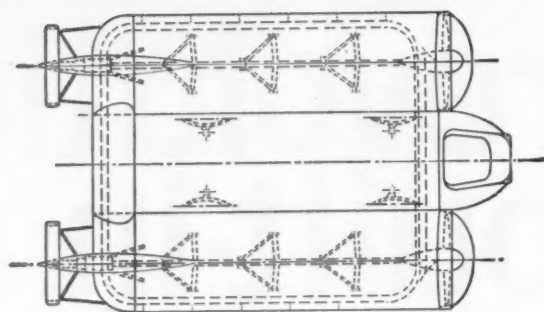


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The smaller of the two Aeronutronic-designed vehicles will weigh 8,000 pounds, carry a 2½ ton payload, cruise at 40 mph. It will have a range of 100 miles and a grade capability of 30%.

The big machine is a high-speed, heavy duty carrier. Weight: a hefty 44,500 pounds, payload: 22,000 pounds, speed: a fast 80 mph, range: 300 miles. It, too, will have a grade capability of 30%.

In spite of this evidence of accomplishment, Aeronutronic's work in the field has just begun. Army Transportation Corps and Navy contracts are speeding further studies into the potentialities of the new vehicle. The ACV is destined to play a significant role in future military and civilian transportation.

Further information regarding the air cushion vehicle, as well as other exciting projects in work at Newport Beach, may be had by writing to Aeronutronic.

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ARMY

letters

INTENSIFIED TRAINING FOR ROTC

I was interested in Lt. Col. Forrest K. Kleinman's "Getting With IT" [November]. I am happy to learn that troops are now receiving intensified combat training, and am wondering why the ROTC program is not also changed to increase efficiency.

At the present time such courses as individual weapons and marksmanship are taught cadets. I feel this course may better be taught at summer camp, where cadets have the opportunity to fire on the Trainfire range. By removing such subjects as these which cannot be effectively taught in a classroom, more time may be devoted to those which are also needed by Army officers, but which may be included in classroom work.

CADET S. LEGREE, JR.

Pittsburgh, Pa.

DRONE SYSTEMS TESTED

"Doctrine Parallels Development," in the November issue, pertaining to the AN/USD-1 drone system includes certain points which should be clarified.

I refer primarily to Mr. Hartt's statement: "And to this writing, not even the SD-1 system has been put through a realistic test, a thorough operational analysis. . . ."

From July 1960 to June 1961, the Target Acquisition Department of the U.S. Army Artillery and Missile School, as part of a world-wide program to test and evaluate combat surveillance equipment issued to units in the field, conducted tests of the AN/USD-1 drone system to ascertain the military usefulness of the system as a target location means within the field artillery, and to determine the adequacy of the current organizational and operational concepts for the drone platoon of the field artillery target acquisition battalion.

During the tests, the SD-1 system was deployed under simulated operational concepts in varying types of weather during daylight and darkness; also, during these hours the drone was flown with a photographic sensor. Usable photographs taken by this sensor, employed in the production of target data, were obtained on 90 per cent of the flights.

A conclusion reached at the end of

the 12-month test was that the AN/USD-1 drone system is of significant military value as a field artillery target acquisition device, with a recommendation that the USD-1 drone, if equipped with an adequate tracking and plotting system, be accepted as an interim field artillery target acquisition device.

Currently at the Artillery School we have integrated instruction into both specialist and general courses on the techniques of employment and operation of a target acquisition drone system.

To quote a statement from the article, "But if 'the whistle blows' tomorrow, we are much more interested in what the troops have right now, not what we will have in 1975." We of the Artillery School are ready now with a concept of employment and operation for the *present* and future drone systems.

COL. JAMES P. SMITH

Fort Sill, Okla.

BELETED RECOGNITION

● Your permission to reprint "The First Combat Infantryman" [June 1961] and its subsequent distribution among Delaware Army Reservists, National Guardsmen, and ROTC cadets certainly set off a chain reaction.

One Wilmington newspaper started the ball rolling by editorializing: "Since atomic submarines are being named for Revolutionary heroes, why shouldn't one of them bear the name of a Delawarean?" The editorial gave reasons for nominating the "unrewarded Kirkwood" as the Delaware Revolutionary hero most deserving of having an atomic submarine named after him.

The Northern Delaware Chapter of AUSA in turn got into the act by passing at its fall meeting a resolution seeking state or national posthumous honors for Kirkwood. Senators Boggs and Williams next entered the scene by writing the Secretary of the Navy and the Secretary of the Army, respectively, for consideration of the matter.

One prominent Wilmington columnist jokingly asked, "And who is this unrewarded Robert Kirkwood?" From the looks of it, before the mat-

ter of presenting state or national honors is resolved, everyone in Delaware will know who Kirkwood was. It's possible a few history books will be changed to include his name, because Kirkwood, who risked his life 33 times for his country before being killed in action, ideally typifies today's citizen-soldier, destined in our time to play an important part in America's fight for survival.

The U. S. Army has never forgotten Robert Kirkwood, its first Combat Infantryman. The choice of his name for Delaware's first federally owned U. S. Army Reserve Center was an overdue honor to this patriot whose deeds belong to Delaware and especially America.

LT. COL. CHARLES J. MILAZZO

Wilmington, Del.

BOOTSTRAPS AT OMAHA

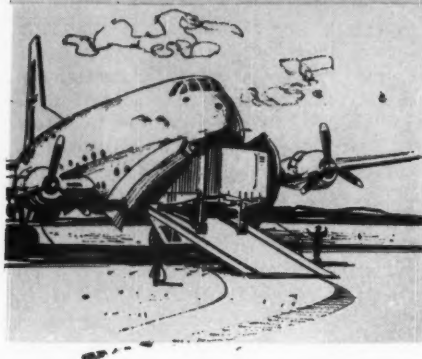
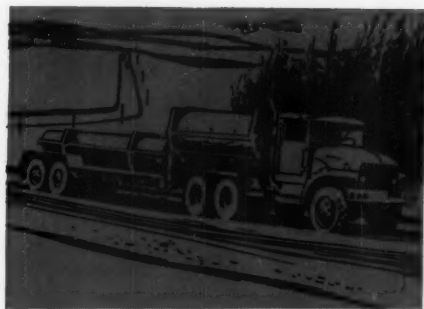
● Being a long-time reader of ARMY, I am aware of your urgent insistence upon accuracy, and for that reason I invite your attention to General Newman's article in your November 1961 issue. This is an excellent proposal, which if successful would earn much acclaim from many officers.

Specifically, I would like to invite your attention to the editor's note following General Newman's article and your reference to Dean Helmstadter's report of degree qualification requirements and the number of bootstrappers in attendance at University of Omaha.

It is inconceivable to me that Dean Helmstadter could have provided you the information indicated or there must have been a transposition error, for over two-thirds of the senior class now at University of Omaha are "bootstrappers," numbering 425 active duty personnel from colonel to one Air Force lieutenant, in addition to 10 retired officers.

Although University of Omaha is properly fair and just in recognizing credit hours toward a degree, they are not quite as liberal as you have indicated. In order to satisfy degree requirements with a minimum of 24 resident credit hours, it is also necessary to have earned a minimum of 35 credit hours from an accredited university in addition to a maximum of 65 credit hours which may be awarded for military service, attendance at service schools, GED, and USAFI courses.

I believe it is also worth mentioning, and as an aid to many officers who are not aware of how close they might be to attaining senior collegiate status as a result of military service, and other educational and



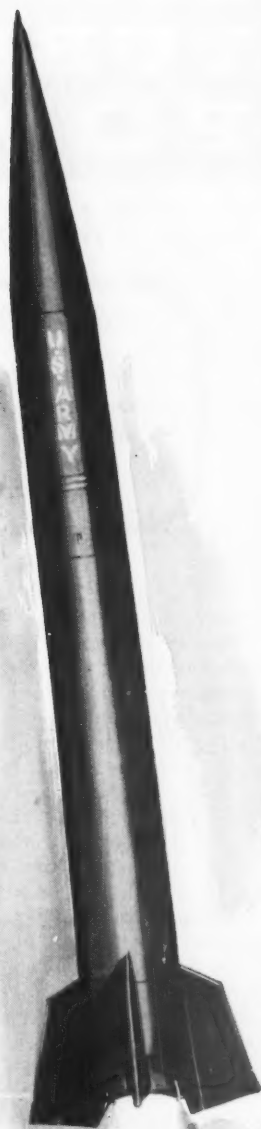
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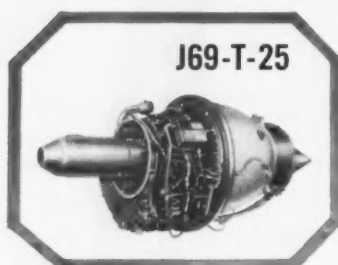
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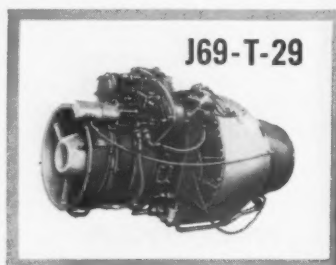


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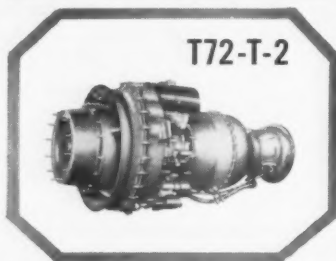


J69-T-25

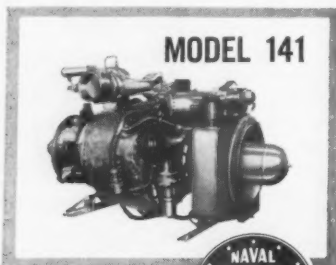


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LETTERS

academic efforts they have been making over the years, that it may be earlier than they think (somehow military-post education advisors do not get around to the specifics of the thing). I urge these officers to assemble their records and transcripts and contact the Supervisor, Military Program, University of Omaha, Omaha 1, Nebraska, for an evaluation of where they stand, and in which direction they might proceed. We bootstrappers have our society, The Pen and Sword, on campus and will be happy to assist any interested officer or soldier, and may be reached through P.O. Box 25, University of Omaha.

LT. COL. NORMAN F. J. ALLEN
Omaha 34, Nebraska

• The editors are happy to have this elucidation by Colonel Allen. We should have said there were 40 bootstrappers in the June 1961 graduating class at Omaha with a much larger enrollment expected in the fall term.

MILITARY POLICE AND REAR AREAS

• Major Monroe's "Rear Area Security" in the July issue brought to light a matter which generally is given too little attention. Also, it recalled several years of grappling with such problems on an army staff.

Certainly there is as great a need for readiness in the rear area as for combat nearer the forward edge of the battle area. Also, we can visualize that in any future combat, the "rear area" will be the scene of more fighting, damage and general harassment than have ever been known before. However, I believe we are in better shape than Major Monroe realized so far as organization and designation of responsibility are concerned.

In 1957, the rear area security controller's (RASC) problems and other considerations caused the army commander, General Bruce C. Clarke, to organize the Seventh Army Support Command (not included on Major Monroe's chart). In wartime the commander of Support Command, a major general, is charged with logistical and administrative support of the army. Inherent in this mission is rear area security and area damage control (RASC/DC); CG, Support Command, will head the Army Service Area. It should be borne in mind that large-scale considerations involving logistical support capabilities and priorities generally outside the scope of MP responsibilities are involved in RASC/DC operations. Proper command decisions and resultant actions

genus: homo • species: sapiens discipline: factors engineering

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Each improvement results in lower contract costs. Some of the major defense programs that benefit include the Polaris, Titan, Falcon and Mauler missiles, new 3-D radar-computer systems now in service on Navy ships and automatic armament controls for Air Force interceptors.

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LETTERS

involving RASC/DC should emanate only from a command familiar with all the implications and penalties such decisions can bring.

What Major Monroe said about MP unit capabilities is correct and well recognized. The MP battalions in USAREUR have been, in my memory, commanded by some mighty good men; during field exercises and maneuvers they have been well trained, and performed in a superior manner. What we need is more of them. (Who wants to be in bad with the MPs?)

The military police traffic control mission in an army sector is vital to combat success. Anyone who has been involved in a big military traffic jam (and who hasn't been halted in a convoy for hours in the rain and cold, wondering what in hell was wrong up ahead?) knows that open routes plus proper timing can move units when and to where they are needed; a failure to do so makes unpleasant military history. The few MP units we have are needed for such work.

What I want to get across is this: I don't think that MP units in the numbers which would be required for effective RASC operations can or will be made available to operate in the rear area during combat. You know the school solution: we will depend on combat units in reserve, a sprinkling of MPs, logistical and administrative units diverted from primary duties. To assist in such tasks, all rear-area units would be augmented by para-MP type elements. I believe that Support Command can control them and utilize them effectively if required.

LT. COL. R. P. ALEXANDER
APO 28, New York, N. Y.

OF UNIVERSAL INTEREST

● We have read the two installments of the article entitled "Management's Self-Inflicted Wounds," by Lt. Col. Charles F. Austin, published in the April 1959 and March 1961 issues of your magazine. It is a first-class article, the best that has ever been written on man-management; pointing out its various "wounds" and "diagnosing" them in a very impressive and interesting way. Its value to army officers during these days when man-management has become a difficult problem is immense. We want all officers of our formation (army) to read it. Since we get only one copy of ARMY for this division and it is very difficult to circulate it amongst the large number of officers in this formation, we request you to kindly

permit us to reproduce both installments of this article in the next issue of *The Golden Arrow*, the magazine of the 7th Division of the Pakistan Army. . . .

We shall be much obliged, if permission to reproduce this article is granted and will abide by the conditions and terms laid down by you.

MAJ. J. A. WATAF
Peshawar Gantt, West Pakistan

● Both the author and the editors of ARMY were happy to oblige our friends of the Pakistan Army.

CONVERTING THE M1 TO AUTOMATIC

● Years back the Army had many tries at making the 1903 rifle semi-automatic, most of which looked like the work of Rube Goldberg, what with added gaspipes and caged camshafts all over the breech. They worked about as well as they looked, and all they did was waste money.

Today things are different. So far as conversion goes, basically the M1 is compatible with the M14. Why hasn't someone over here done it? It would take a new barrel, or the old one rechambered, shortened, and set up for the new gas system. We would need a gas system, a front sight, and barrel fittings. Add a magazine catch, a 20-round box and clip guide, and our revamped M1 would be on the road, for use as a second-line M14.

In case someone rises to call me a driving idiot, I refer him to the catalog of Beretta, of Brescia, Italy, makers of firearms since 1689 or so. For some years they made the M1 for NATO, and since the machinery struck them as good for further use, they developed the BM59 conversion to the M1. Adding the parts referred to above gave them an equivalent to the M14. In military contract batches, they are said to quote a price of \$40 on the BM59, using the original receiver, wood, trigger, hammer, and so on. Quite a difference in cost. The thrifty Beretta people rebelled at the notion of junking the stuff they made M1s with, and they have done something. We could use a few thrifty GIs.

Along the same line, the Bundeswehr is being equipped with the MG42 that uses the 7.62 NATO barrel. New guns are also being made, at a cost of about \$300 to \$400. Quite a sum over the price of the M60. Couldn't we get some of these to fill the need of our New Modern Army, until our most costly weapons become available to all?

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Newark, Ohio

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ARMY

authors

COL. DONALD MCB. CURTIS, Artillery (page 26), has written four other articles dealing with combat mobility or logistics. After a tour with the Combat Development Experimentation Center he is now CO, USARAL Support Command and Fort Richardson.

COL. ROBERT W. VAN DE VELDE (page 37) retired in 1957 to join the faculty of Princeton University, where at the Woodrow Wilson School he specializes in the politics of national security. A former artilleryman, in two assignments in the Pentagon he was concerned with international affairs, and twice served in military attaché slots. He is co-author of *Strategic Psychological Operations and American Foreign Policy* (1960).

LT. COL. JOHN B. B. TRUSSELL, Artillery (page 41), was commissioned after graduating from the University of Minnesota in 1942, and integrated into the Regular Army in 1946. After a tour in Korea he is on duty with

the Joint Staff in the Pentagon.

LT. COL. OAKES M. HAYDEN (page 46) was commissioned in the Corps of Engineers from OCS in 1942, completed a competitive tour in 1948 in the Infantry, and transferred back to the Engineers in 1957 after completing the Armor officers advanced course. He is now in Germany as engineer, 8th Infantry Division.

RICHARD L. SHETLER (page 52), has been general manager of the Defense Systems Department of General Electric in Syracuse since it was formed in 1958. In this capacity he is in overall charge of managing weapons and support systems programs assigned the company by the armed services. He joined GE after earning his B.S. degree in electrical engineering at Ohio University in 1943. Mr. Shetler has organized and led several of the most challenging defense projects ever undertaken by GE.

ALBERT PARRY (page 56) is Professor of Russian Civilization and Language

and Chairman of the Department of Russian Studies at Colgate University. He began writing about Soviet missiles in 1953, since which time he has contributed articles to many technical and general periodicals. A native of Rostov-on-the-Don, Dr. Parry lived through the Russian Revolution, and became a U. S. citizen in 1926. During World War II he served with OSS. He has lectured at the Army War College and is a consultant to the Army's Special Operations Research Office. CAPT. THOMAS J. KERVER, Artillery (page 59), entered the Army in 1956 after graduating from Xavier University in Cincinnati. Since then he has served in missile and artillery units as platoon leader, battery executive and battery commander. He is now an instructor at the U. S. Army Information School.

MAJ. ROBERT T. WINFREE, JR., Artillery (page 62), a 1946 graduate of USMA, served in Korea with artillery units as battery commander and battalion S3. He is now in the Doctrine and Requirements Division of G3, CONARC.

COL. WILLIAM M. CONNOR, Artillery (page 63), graduated from USMA in 1936. During World War II he was in the Operations Division, War Department General Staff, and later commanded artillery observation battalions in combat in Europe and Korea. He has also been director of the Department of Combat Developments at Leavenworth.

CAPT. PIERCE E. MOUNTS, Corps of Engineers (page 66), enlisted in 1947, was commissioned in the Reserve in 1951, and integrated into the Regular Army in 1960. He is now in Germany with the 540th Engineer Group.

LT. COL. HOWARD W. RICHARDS, Infantry (page 66), a 1944 graduate of USMA, is now with Eighth Army headquarters in Korea.

COL. GEORGE R. SEDBERRY, JR., Infantry (page 68), was commissioned in 1942 after graduating from North Carolina State College. He is now with the Combat Developments Section of CONARC.

MAJ. ROBERT J. PETERSEN, Infantry (page 70), is a 1948 graduate of USMA. After earning his M.A. degree in psychology at Vanderbilt University, he is now in the Office of Military Psychology and Leadership at West Point.

CWO JOHN P. CONLON, Ohio Army National Guard (page 72), has had long service as an ordnance specialist. A frequent contributor, he wrote "The Plastic Pot" in the November issue. J. S. BUTZ, JR. (page 75) is a freelance technical writer who specializes in aviation, missiles, space and atomic energy.

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ARMY

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By Lt. Col. FORREST K. KLEINMAN
Contributing Editor

TINKERING CAN BE DANGEROUS

The long-threatened blow to the pride and morale of many thousand career noncommissioned officers has been averted by the recent change to AR 670-5. Noncommissioned officers who were in grades E5, E6, and E7 on 31 May 1958 will not lose stripes or military titles next June.

But the consequences of the original mistake in implementing the nine-grade enlisted structure will long continue to affect the Army. For at least five more years, it will be impossible to tell the actual rank of most noncommissioned officers by either their insignia or their military title. Already three years have passed during which an ambiguous meaning has been ac-

corded these traditional symbols of military status and authority.

It is not my intention, however, to add to the millions of words bemoaning the situation or the millions more suggesting ways to improve it. My concern here is with the basic misunderstanding of military motivation that caused it. For the same misunderstanding in the future could produce other mistakes with even more serious consequences.

Whatever the rational considerations that led to the original plan for insignia and titles in the new grade structure, it is obvious that insufficient consideration was given to factors in human motivation that are not rational. In the light of cold reason, what difference does a stripe more or less make if the pay is the same? In the light of cold

reason, what difference does a change in the meaning of a title make?

But men are not fired by the light of cold reason. Even more than most men, soldiers are moved by other than rational considerations. They think with their hearts as well as their heads.

For example, they think a bit of colored ribbon on their chests is a higher status symbol than the plush limousine of the ribbon manufacturer. They deem a gold bar on the shoulder to be worth a reduction in pay and life expectancy. They feel it their duty to jump out of airplanes, storm shell-swept beaches, hold a hill until they are dead.

As General Herbert B. Powell has said, not even the most learned Doctor of Philosophy could move men to do such things by rational argument. Yet men who do such things make possible all the benefits of rational thought that our society enjoys.

Long before social scientists discovered the rudiments of depth motivation, it was an ancient military art. Our military heritage provides motivational tools that have tapped the well springs of human behavior for countless generations. And we know that the tools will work, for they have moved men to the ultimate act of self denial on every battlefield of history.

Military insignia and titles of rank are only a small part of this tradition. But tinkering with their meaning can be dangerous as the Kremlin discovered when it tinkered with traditional symbols of authority and modes of discipline in the Red Army. Communist troops motivated solely by rational indoctrination proved so unbattleworthy in Finland that they had to be replaced by troops motivated and led in the traditional way. Only then was the mighty USSR able to defeat tiny Finland.

The lesson of the stripes is that when we tinker with our time-tested tools for depth motivation, we're asking for trouble.

THE PROGRESS OF HUMRRO

At one end of a long narrow room at George Washington University in Washington, D.C. are four five-

ANTHONY J. DREXEL BIDDLE

Major General Anthony J. Drexel Biddle, who served his nation long and well as a diplomat and a soldier, was the much-loved President of the Association of the U. S. Army from 1958 to 1960, during the period of its greatest growth in numbers and influence. His death, at the age of 64 on 13 November 1961, is mourned by every member who knew of his labors for AUSA.

His military and diplomatic accomplishments, during a career that spanned more than 40 years and three wars, were impressive and always in the best interests of the United States. But it was Tony Biddle's gallant, warm, generous spirit that will be remembered. He was courtly without being stiff. He disliked obsequiousness. He was as kind to subordinates as he was respectful of superiors. He was every inch a gentleman.

An undeviating patriot, proud of his country and its accomplishments, during the last few years of his life he was much concerned that the world-wide prestige of the United States should not decline. He talked often of this and worked ceaselessly to impress on his fellow citizens the importance of keeping untarnished the image of the United States as a land of the free and the home of the brave.

General Biddle made his own life an embodiment of this image.

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WORLD BATTLEFRONT

In South Vietnam American soldiers instruct South Vietnamese forces in the use of U. S. weapons. In the picture above Presidential Advisor, Gen. Maxwell D. Taylor, an old artilleryman, peers through the sighting piece of a 105mm howitzer in a training area. In the picture opposite, Lt. Col. Neil Robinson sights in a machine gun at a South Vietnamese defense point near Bien Hao.

foot rows of pamphlets on book shelves. They represent a decade of scientific effort that is exerting a far-reaching influence upon the Army's present and future combat readiness.

Behind a large plain desk at the other end of the room sits the man who directs that effort. Dr. Meredith P. Crawford is a tall man with a firm handshake, a pleasant smile and a friendly voice.

The string of scholastic and scientific honors after his name is almost as long as the row of pam-

phlets. But a visitor has to dig them out of *Who's Who*, for Dr. Crawford doesn't talk about himself. He talks Army and what HumRRO is doing to help the Army improve its paramount product—human performance.

If the visitor has been around the Army during the past 10 years, chances are he already knows quite a bit about HumRRO. No doubt he knows that the Human Resources Research Office does psychological research on military training methods, motivation and leadership

under a contract between the Department of the Army and George Washington University. He probably knows that HumRRO has five field units located at military installations throughout the country. He may even have rubbed elbows—and ideas—with some of the experimental psychologists and soldiers at work on research projects in the U. S. Continental Army Command or overseas.

But no matter how much the visitor thinks he knows about HumRRO when he enters Dr. Crawford's office, thirty minutes later he understands a lot more. A former professor of Psychology at Vanderbilt University, Dr. Crawford has the knack of spotting mental fuzz in questions. His answers tactfully bring the questioner's thinking into focus.

For a recent visitor in search of enlightenment, Dr. Crawford opened with a definition of two general terms that describe HumRRO's work for the Army. The two key words are: *Research and Engineering*.

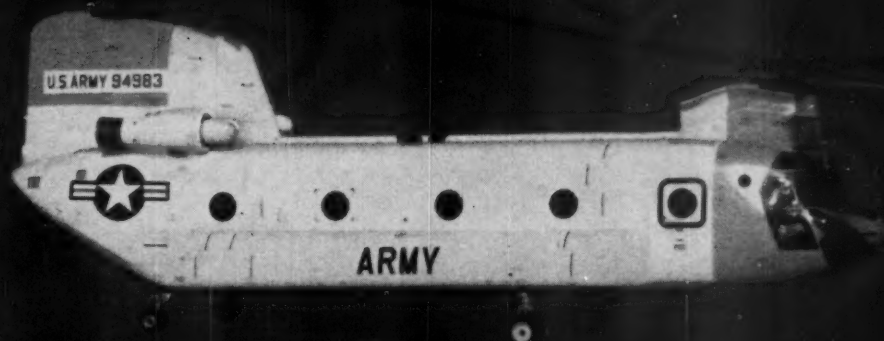
Research studies seek general principles involved in a human factors problem. For example, the answer to the question: What does a soldier need to know to do a specific job?

Engineering translates general principles into practical application. It blends the findings of psychological research with military experience. For example, it develops a procedure that shortens the time required to teach a soldier to perform a job.

Next, Dr. Crawford described the four categories of effort in HumRRO's current work program. The effort of most immediate importance to the Army is HumRRO's Technical Advisory Service. It assists the Army in adopting the products of HumRRO engineering. At the combat arms schools in particular, frequent use is being made of this "consulting service."

The second category of effort is devoted to 26 research and engineering tasks. These range from FORECAST—"the development of a method of forecasting training demands imposed by new electronic weapons systems"—to TRANSITION,

IN PRODUCTION AND NOW FLYING. Specifically designed to fill the need for an all-service heavy transport helicopter, HC-1Bs are now in large-scale production. With less than five hours logged following initial forward flight, the first HC-1B flew 150 miles an hour—at a gross weight higher than normal maximum. Since then it has flown at 150 mph for long periods, under various operating conditions. Pilots' test reports consistently read "No major problems." The new helicopter, in addition to aircraft carrier compatibility, embodies the features required by both the U. S. Army and U. S. Marine Corps—large cargo compartment, rear loading ramp, freedom from balance problems and inherent flotation capability.



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whose objective is "to improve the motivation morale and attitudes of the Army recruit." Among the most promising of current tasks is CONTACT which has developed an automated procedure for rapidly teaching foreign languages. Since it eliminates human instruction, this teaching method would enable the Army (or State Department) to

install language courses anytime anywhere.

The third category of HumRRO effort is new this fiscal year. It consists of exploratory studies designed to assess possibilities in training research. For example, adapting U.S. Army training methods to friendly foreign nationals. From exploratory studies HumRRO

can determine whether a task assignment for further research is warranted.

The fourth category of effort is Basic Research—pioneer studies in psychology, semantics, and anthropology. This effort is designed to advance the state of the art upon which progress in the other categories of effort depends. It is necessary to the future accomplishment of HumRRO's mission because some of the Army's most urgent and important problems lie beyond the reach of presently available techniques of investigation.

Among the five basic research studies aimed at specific gaps in man's perimeter of knowledge is one dealing with the command decision-making process. Another concerns the role of words in thinking and reasoning.

In a future issue, ARMY hopes to attempt to translate into laymen's terms some of the scientific findings recorded in Dr. Crawford's 20-foot library of HumRRO pamphlets. But the real translation is already taking place in the field of human action wherever U.S. Army units train in the world today. Meanwhile, Dr. Crawford is working out a system for ready use of past findings in building future research and training programs for the Army.



WORLD BATTLEFRONT

This was the day (above) when U. S. and Soviet tanks frowned at each other across the East-West zone border in Berlin. Shown are American tanks taking position at the Friedrichstrasse border crossing point. In another part of the U. S. zone of Berlin, infantrymen (below) march near the sector border on one of the Berlin Command's constant field exercises.



RESTRAINT AND OBJECTIVE

The paradox of exercising restraint in the application of force is as old as the art of war. Indeed, resolving the paradox is the crux of the art. For, as Chesterton said, all art consists in drawing the line somewhere.

It is ironic, therefore, that many proponents of measured military force regard Karl von Clausewitz as their oracle. Clausewitz, himself, was convinced that his most important contribution to the philosophy of war was the following precept: "War is an act of force and to the application of that force there is no limit!"

Looking back upon the course of history since he wrote this precept, no one can question Clausewitz's opinion of its importance. Certainly



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A CREATIVE TEAM OF SCIENTIFIC, ENGINEERING AND PRODUCTION TALENT

it has exerted vastly more influence upon human affairs than his oft-prated second thought: "War is the continuation of state policy with other means."

There is urgent need today to ask whether another step in the direction of his first thought might be man's last.

Instead of quoting Clausewitz, modern day students of war ought to read him. At least they ought to read as far as page seven of *On War* where he explains why the "perfection" of unlimited force cannot be attained in reality. Illogical even in his time, today his reasons are patently ridiculous.

Having rid himself of the mesmerizing influence that the Polish-Prussian has too long exerted over military thought, the reader might profitably put *On War* aside and pick up the 30 October issue of *US News and World Report*. A single paragraph on page 54 has more to say of current value to military thinkers than all the windy profundities that Clausewitz ever wrote. The paragraph was written by a newspaper reporter at the village of Lac Tien in South Vietnam. But its implications are world wide, for it points to the critical relationship between restraint and objective in the application of military force.

Here is what the reporter wrote:

"Also, the Communists kill a few people, but mostly district chiefs whom the tribesmen call 'bad people.' On the other hand, the loyal Air Force recently dropped napalm bombs on a nearby village suspected of harboring Communists, and killed 37 *montagnards* [mountain tribesmen]. The raid can be justified as a military necessity, but it also enraged the tribesmen."

Even in this miniature arena, the professional eye can readily recognize two diverse interpretations of economy of force. But let us approach the matter with the kind of questions that a layman might ask.

Why do the red guerrillas kill only a few unpopular district chiefs? Surely the mass graves in the Ukraine, South Korea, Hungary and Tibet attest to the Communists' wanton disregard for the value of human life.

The answer, of course, is obvious. The Red guerrillas cannot afford to antagonize the civilian populace upon whom they depend for food, shelter, recruits, and intelligence of antiguerrilla activities. At this stage of operations, the good will of the civilian populace is the Communists' primary objective. They kill accordingly.

On the other hand, what is the purpose of the antiguerrilla forces? Is it just to kill guerrillas or is it to eliminate the guerrilla menace? If the latter, then obviously their primary objective should be the same as the guerrillas—the good will of the civilian populace.

The question then arises whether the military force used by the antiguerrillas was appropriate to the objective. Can the napalming of the village suspected of harboring Communists truly be justified as a "military necessity?"

The same relationship between restraint and objective in the application of military force holds true for any arena of war. In World War II, for example, was it the purpose of the Allies' armed forces to kill Germans? Or was it to eliminate the Nazi menace?

In the conduct of operations, the Allies often acted as if the former were the case. That this was a costly mistake has long been generally acknowledged. Even an official British military history admits that the terror raids against the civilian populace of Germany lengthened the war and Allied casualty lists. Instead of weakening the enemy will to fight, the raids strengthened it. Millions of potential dissidents joined in support of Hitler's war effort. Earlier, the same lack of restraint by the Nazis had precisely the same effect upon the British people.

Wherever and whenever the principle of economy of force has been violated, the effect has been the same. From Madrid to the Warsaw ghetto, from Indochina to North Africa, the wages of wantonness in war is wormwood.

Contrary to Clausewitz, there is a moral force "apart from the conception of a state and law." Its workings can be read on every page of recorded history. Nor do we

need deem it mere idle chance that the first Roman over the wall at Carthage was stoned to death as "an enemy of the Roman people"—despite many years of good deeds in their behalf.

Perhaps the sort of semantic snafu that long equated general war with "unlimited war" is involved in modern day misinterpretation of "economy of force." For there is a growing tendency to associate the word "economy" with something cheap. But nothing in war comes cheap.

The real meaning of economy in military usage is precisely the same as the primary definition of the word given in the Oxford Dictionary: "management of expenditure."

If the object of war were to kill without limit, we could demobilize our Army, Navy, and Air Force tomorrow. For we would not need expensive missiles, ships and millions of men to do the job.

Botulinum toxin is very cheap and easy to manufacture. Just one pound of it, according to a British newspaper report a few years ago, would suffice to depopulate the earth.

So all we would need to achieve our objective would be sixteen homicidal maniacs—each carrying one ounce of botulinum toxin in a little black box!

A LESSON IN ATTITUDE

One icy black night during the Eighth Army's retreat from North Korea, I received a topical lesson on the life-or-death importance of attitude. The lesson was administered by the American advisors to two regiments of the ROK division adjacent to ours. Because of its present day applicability, I am sure that both of them would want the lesson passed on.

My mission that night was to find out whether the ROK Division had exposed our division's left flank by premature retreat south of a road that paralleled the front. Upon arriving at the site of the nearest ROK regiment's CP, I radioed the good news that it was still in friendly hands. But my feeling of relief faded fast as I con-

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ferred with the regiment's senior American advisor.

He and the other Americans of his advisory group occupied a Korean hut apart from the rest of the CP. The only Koreans with him were orderlies and an interpreter. He preferred it that way, he told me dourly. He didn't trust the "Gooks," as he called them, and didn't hesitate to say so in the presence of his interpreter. He doubted that the regiment would hold its position until morning if the enemy pushed out combat patrols.

The contrast in attitude and atmosphere at the CP of the next frontline ROK regiment could hardly have been more pronounced. The members of the American advisory group were living with their Korean counterparts. The senior advisor slept in the same room with the regimental commander. While I was there, they even shared a bowl of *Kimchee*!

The smiling faces of Americans and Koreans reflected mutual respect and friendship. There was confidence in their voices when they told me that *their* regiment would hold.

If only their regiment were next to our division's flank, I thought as I moved on. The wish proved prophetic, for the next night the other regiment retreated south of the road. Fortunately, I got wind of the retreat and radioed our division in time to block the threat of enemy envelopment down the road.

As the Eighth Army rear guard withdrew toward the 38th parallel, the ROK division was released from attachment to ours. So I returned to my own CP—much to the relief of the division signal officer who had been sweating out his precious radio truck and SOI.

Several weeks later in Seoul, I met the senior advisor of the second ROK regiment that I had visited. I was delighted to learn that he and his group had come through all right, for I knew that the ROK division had suffered heavy casualties during the withdrawal.

One of the regimental advisory groups had not been as lucky, he said. I didn't need to ask him which one.

ARMY

editorials

Bring Back OPD?

As most of our readers are aware, a reorganization of the Department of the Army is brewing. A very full report and accompanying recommendation made by a committee headed by Mr. Leo Hoelscher, Deputy Comptroller of the Army, have been analyzed and re-worked by the Department of the Army General Staff for submission to Secretary McNamara. This, coming hard behind the establishment of the Defense Supply Agency with its present and potential effects on some of the responsibilities of the Army's technical services, surely signals a reorganization that may be less than convulsive but will consist of more than a minor shuffling of areas of responsibility.

Would new field commands for such functions as research and development, matériel procurement, and possibly the addition of some responsibilities to CONARC's growing headquarters (all of which would foreshadow revolutionary alteration of the technical and administrative services) be the proper answer to some of D/A's organizational problems? This subject is by-passed here in favor of a brief examination of how to maintain the Army General Staff as an effective instrument in the Cold War.

There are those who say the Army General Staff as presently constituted has its feet so deeply embedded in concrete that it is unable to make meaningful decisions fast. Each of these critics has his own chamber of horrors from which he can cite examples that, he will insist, prove his point. Those who are not at all sure that the system is quite all bad cite their own example of exemplary action and tend to expand on the outside influences that inhibit the present day General Staff. Usually this consists of (1) the iniquity of making cost more important than performance; and (2) the growing tendency of the DOD civilian bureaucracy to spread its tentacles into the operating sections of the services' military staffs.

While the first reason, as stated, is an oversimplification, budgetary strictures do necessarily inhibit military staff wheelers and dealers who want to get the job done. Thankfully there is some evidence that the atmosphere is becoming more congenial to the doers and that the reign of the budgetary no-sayers may be running out. The second reason has been present since the days of Mr. Forrestal and certainly it can be admitted that the system does tend to encourage excessive civilian participation in military planning and operations. It must be added that an aggressive civilian wheeler and dealer can hardly be blamed for moving in when a simple question he puts to the military is "waffled" and receives a less than clear cut response.

(This raises the interesting speculation of whether the burgeoning civilian bureaucracy might be reconciled if there

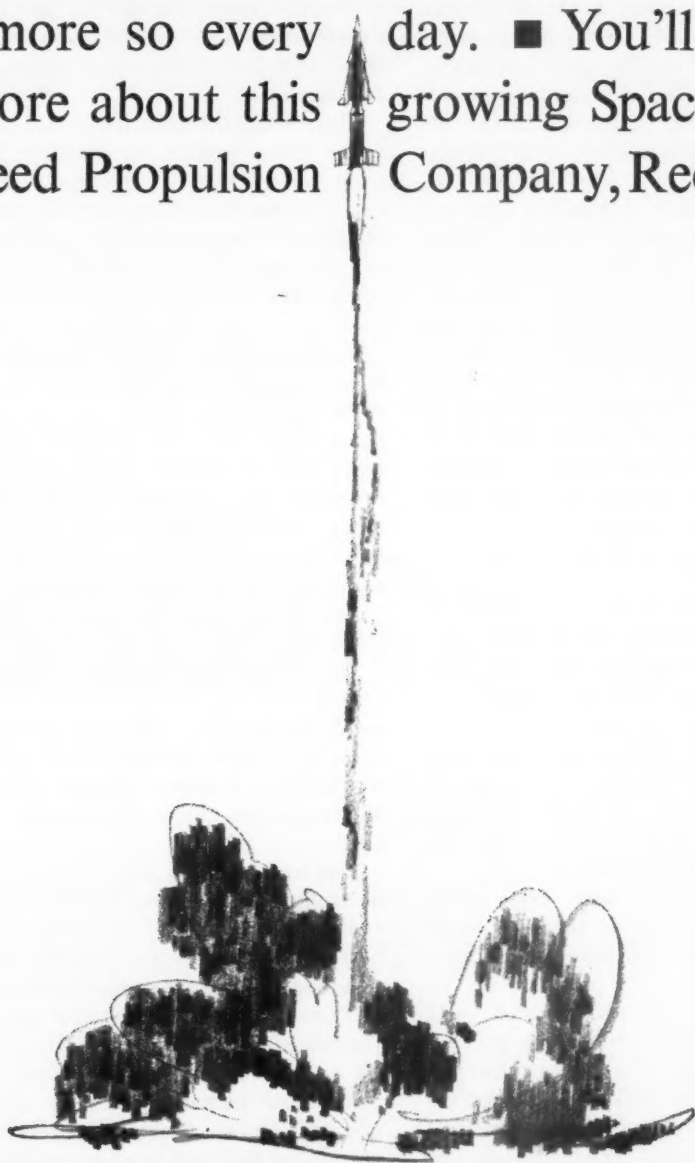
(Continued on page 74)

■ Yesterday, the Grand Central Rocket Company was a partially-owned subsidiary of Lockheed. Now GCR is wholly owned, and it has a new name:

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■ Lockheed Propulsion Company, Redlands, Calif.



NEW CHALLENGES: NEW ARMY

By Lt. Gen. MILTON G. BAKER
President, Association of the U. S. Army

The following is drawn from an address delivered by General Baker at a meeting of the Columbus-Phenix City-Fort Benning Chapter of AUSA on 9 November.

Before World War Two, there was a tendency to insulate officers of the military establishment. They were expected to be technicians and little more. Their views on policy matters were seldom sought in the councils of state. The career officer, prior to 1941, was expected to serve out his years without any opinions except those within the narrow confines of his immediate military assignment. World War Two gave him a far broader stage. In addition to his primary mission of winning battles, he was given a number of collateral duties. Occupied countries involved the establishment of military governments. And to administer these successfully, demanded that he quickly learn the customs and traditions of the people of those countries. In his relations with our allies, he frequently was called upon to exhibit infinite patience and understanding, to work out arrangements which would be satisfactory to all concerned. And this, as many of you can attest to, was no mean feat of diplomacy. Occurrences such as these were not confined just to high staff levels. They also arose to challenge junior officers. The extent of the major problems, however, was recorded in virtually every memoir.

Thus it is no small wonder that officers who began their service careers with full expectations that their lives would be bounded by the military establishment, found themselves well qualified for high civilian posts in government and business. It is small wonder that out of World War Two, the Army could contribute an able President in the person of Dwight D. Eisenhower. An able Secretary of State in the person of George C. Marshall. Able Ambassadors such as Bedell Smith and James Gavin. And a host of others who are equally successful in civilian pursuits.

The years ahead are filled with even more promise for the full utilization of the talents of our military personnel, with corresponding challenges and responsibilities.

While decisions on foreign policy must, and should, remain with the civil arm of our government, this age of nuclear power will mean that the military establishment must, of necessity, exercise a strong influence in the shaping of that policy.

In past wars, the margins of the oceans gave us

ample margins of time for the armed forces to catch up to Presidential and Congressional decisions which put us into those wars. Even as late as December 1941, when Pearl Harbor shocked and angered us, we had sufficient time to take an Army which, only a few months before, was training with dummy machine guns and dummy packs, and make it the nucleus of the most powerful Army on earth.

It is unnecessary for me to tell you that, in the event of a ballistic missile attack, the time margin has now been reduced to thirty seconds. This will require us to remain alerted for many generations, unless the dubious prospect of a foolproof disarmament program can be worked out, or the Communist organization falls apart. Neither of these things is likely to happen in the foreseeable future.

Meanwhile, the nation must place more and more reliance upon its military leaders and, indeed, upon the entire defense establishment. It is not that the State Department specialists are less qualified to report on the complex machinations of the Soviet, but the threat has to be appraised, in the first and last analysis, on a military basis.

* * *

Basically, the contest between America and Russia is a clash of ideologies. There is an air of cynicism among young people of all countries these days. The Communists thrive on malcontents and dissidents. They stir up student riots in South America and France and Japan. Anywhere, in fact, they can find an opening. They have been singularly unsuccessful in their attempt to do this in the United States.

Our young men and women are well fitted for leadership. The cynicism which they possess is of the same constructive calibre that made the young men and young women of a century ago, unafraid as they marched across the plains to open up a new America. They then were able to match their abilities against the mountains, and the youth of today are equally capable, in my opinion.

The image of the Army, for years to come, will be molded within the present. This, in a very real sense, is a new Army, drawing its personnel from better educated, better trained, and better equipped men than at any other time in our history.

Those who will be called upon to serve the United States Army will lend and add stature to it. And in this Army they will find a proving ground for themselves. A proving ground that will not only make them the finest soldiers in the world, but the most sterling of American patriots.

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Here's how the
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LV. NEW YORK 5:00 PM



AR. LOS ANGELES 3:30 PM
FLIGHT TIME - 1 HR. 30 MIN.*



LV. SAN FRANCISCO 8:00 AM



AR. HONOLULU 7:35 AM
FLIGHT TIME - 1 HR. 35 MIN.*



LV. TOKYO 9:00 AM



AR. BANGKOK 8:50 AM
FLIGHT TIME - 1 HR. 50 MIN.*



LV. BEIRUT 12:30 PM



AR. LONDON 11:55 AM
FLIGHT TIME - 1 HR. 25 MIN.*



LV. PARIS MIDNIGHT



AR. NEW YORK 8:10 PM
FLIGHT TIME - 2 HRS. 10 MIN.*

*Includes take-off
and landing time.

Trisonic jets that would land you in Los Angeles 1½ hours earlier than your take-off time in New York are feasible says a late Federal study. Douglas officials say they could be operational by the early 1970's.

A 2100 mph civilian jet transport that would fly 13 miles high, cross the continent in one hour and thirty minutes*, and use present jet runways is on the drawing boards at Douglas.

Such an airplane is needed - says a recent Federal Aviation Agency study made with White House approval - to maintain U.S. leadership in commercial aviation. This is important because the export value of aircraft and parts in 1960 was \$1.4 billion or 5.2% of total U.S. exports!

The study also notes that substantial government assistance would be needed to underwrite the \$500 to \$550 million estimated development costs.

Douglas believes that the estimated market of

200 to 300 Mach 3 aircraft would more than repay these development costs.

They are backing this belief with continuing studies based on 15 years experience with missiles, supersonic and hypersonic aircraft...to bring the trisonic civilian jet transport to reality at the earliest possible date.

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From the grass roots comes some answers to the question of how

ROBERT A. LOVETT, when he was Secretary of Defense, was once asked his thoughts on reorganizing the technical services. His reply intimated that you had less chance of injury arguing with a buzz saw. Some people bear the scars of such conflicts all over their efficiency index to prove the point. The battle lines between the technical service type and the line type logisticians seem to be drawn at the clarion sound of

According to the point of view from which each person looks at the problem his diagnosis is correct. But if we (as impartial and objective observers, of course) stand back and view the bucket from the side, we can visualize the open end as starting in the zone of the interior and the closed end as representing the point of delivery to the combat user. From this visualization we will have realized two things: first, it takes a hell of

A FIGHTING SUPPORT

"functionalization." The conflict might well be likened to the description of a bucket by two persons who had never seen one before: one looked at the bottom, the other looked at the top. While the first would describe a solid cylinder, the other naturally would describe a hollow one. Yet both would be describing the same article.

Right here it might be well to look at the bucket of worms labeled "functionalization," and see what we mean, from all angles of the problem. Let's have the combat user view the bucket from the bottom (the solid approach) while our technical service proponent sees the open end (the empty approach). The user sees only one source to which he wants to look for support. The supplier sees a large container into which must go various products and services from several sources in order to provide the ultimate user with all his needs.

a long bucket to cover that distance; secondly, the purpose of all logistics is to get what is required to the combat user at the end of the line, and on time. One more analogy in the use of the bucket will assist in visualizing the pros and cons of functional organization of the technical services. That is the fact that if seven suppliers are to deliver seven separate buckets, or seven partial bucketloads, to the end of the line, the user with only two hands will have none free for manning his personal weapon.

Functional or technical approach?

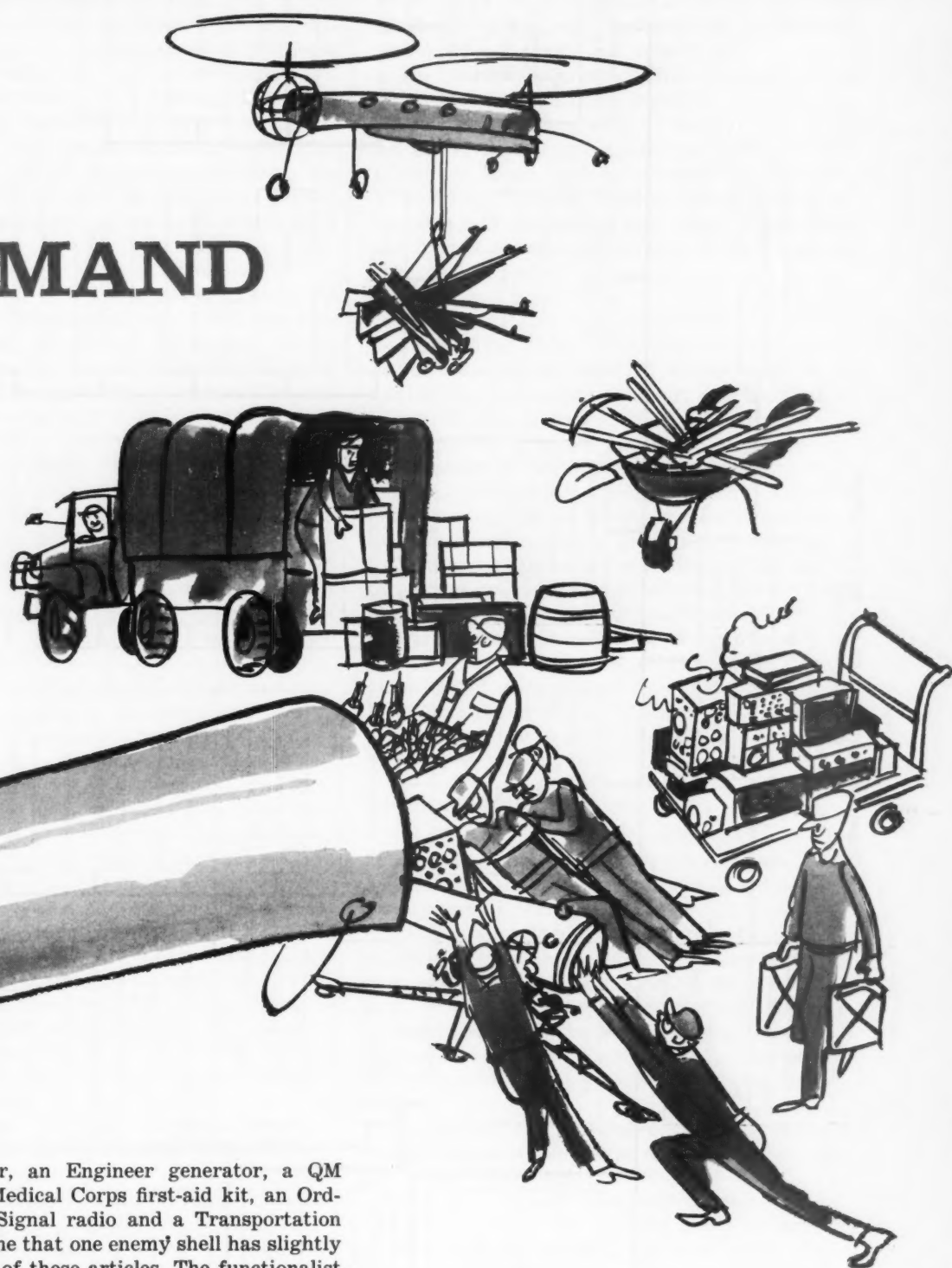
Perhaps another illustration of the desire for the functional approach—at least at the user end—lies in the field of maintenance or repair. A tank is driven by a combat tanker to the first point in the rear at which he runs into technical service insignia. His tank has on it a Chemical Corps



By Col. DONALD McB. CURTIS

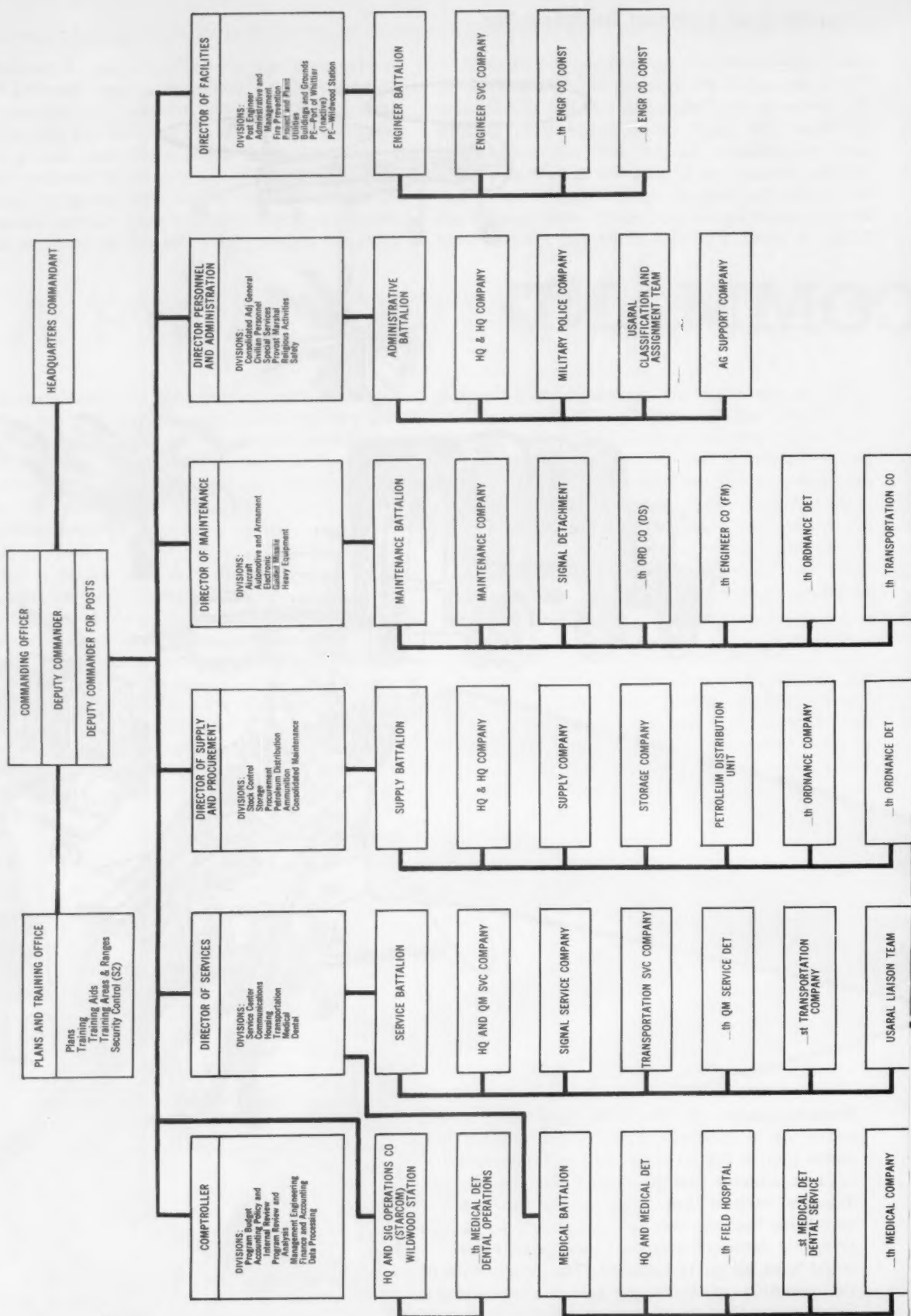
technical should service be

COMMAND



decontaminator, an Engineer generator, a QM water can, a Medical Corps first-aid kit, an Ordnance gun, a Signal radio and a Transportation life belt. Assume that one enemy shell has slightly damaged each of these articles. The functionalist maintains that the combat user should be able to bring his damaged weapon to one point where he could have all parts repaired. The proponents of the sanctity of technical service organization would insist that the poor tanker split his weapon

USARL SUPPORT COMMAND AND FORT RICHARDSON ORGANIZATION CHART



into seven parts and deliver each for repair to its respective maintenance service.

The argument immediately arises that this is silly when you are talking about one tank, but that when you get into thousands upon thousands of tanks, obviously this one repair agency will need larger technical service contingents to take care of the large workload in components. This is perfectly true, and brings us to the point that neither the technical service organization approach nor the functional approach is the perfect solution at each echelon of endeavor. Which level of command above that of division direct support at which the technical service organizational concept will be more efficient is a matter of study by the experts at Leavenworth and DCSLOG. The determination of the echelon will depend on assumed size of the forces being supported, which in turn determines the quantities of articles involved at that particular level.

A "fighting" support command

For a really objective view of the problem, a distinction should be made in the reader's mind between the basic staff and military actions involved in plans and training on the one hand and field operations on the other. As a result of our classic staff thinking, we have for several decades emphasized plans and operations together. This tends to perpetuate branch consciousness which, while necessary during training periods, becomes a burr under the saddle in the operational arena. The oft-expressed feeling of the technical service proponents that any functional approach will destroy their service or corps overlooks the fact that since before 1940, technical experts in the various aspects of ground combat from Benning, Sill, Knox and Bliss have been rather successfully integrated into functional combat division organizations. There seems therefore no valid reason why the technical experts from Edgewood, Belvoir, Sam Houston, Aberdeen, Lee, Monmouth and Eustis should not be able to work together in the same unit as members of the support team.

The foregoing would indicate that the acceptability and practicability of the functional organization up to and including division support level are matters of fact. The proof may be found in a description of the "Fighting" Support Command of United States Army, Alaska (USARAL), which was deliberately tailored on a functional basis and tried out under both garrison and field conditions during the past year. In designing and developing this organization, we were interested primarily in obtaining three results: first, placing control of resources for accomplishing a mission in the hands of the person responsible for executing that mission; secondly, to include in his control function adequate flexibility in the use of

resources; finally, to consolidate forms, functions, and procedures into a simplified standard methodology which would eliminate not only duplication of effort by comptroller and personnel sections but septuplication among the other types.

The concept under which this organization was developed was that there would be a field agency capable of providing support teams which could act in the direct support role, and organized on a functional basis. Back-up support would be provided by fixed or base echelon type organizations. These would operate at the major installations and have the mission of supporting the remaining personnel, including dependents, as well as running the fixed installation. Wherever possible, the composition of the direct support or field echelon was to be TOE while the bulk and table of distribution military and civilian spaces were to be used in the base echelon support and installation type activities. A desire for a TOE structure was based on the primary advantage to a military organization in morale and esprit, since the individual soldier's military unit is his home. A second but no less important advantage lies in providing equipment and replacing personnel. Primary consideration was to be given to accomplishing the respective missions of developing the various elements of the support organizations. Each organization recommended in each of the four phases of the study was to provide the types and quantities of units and personnel required to perform the mission effectively. Based on these broad guide lines, the sequence of development was undertaken in four steps.

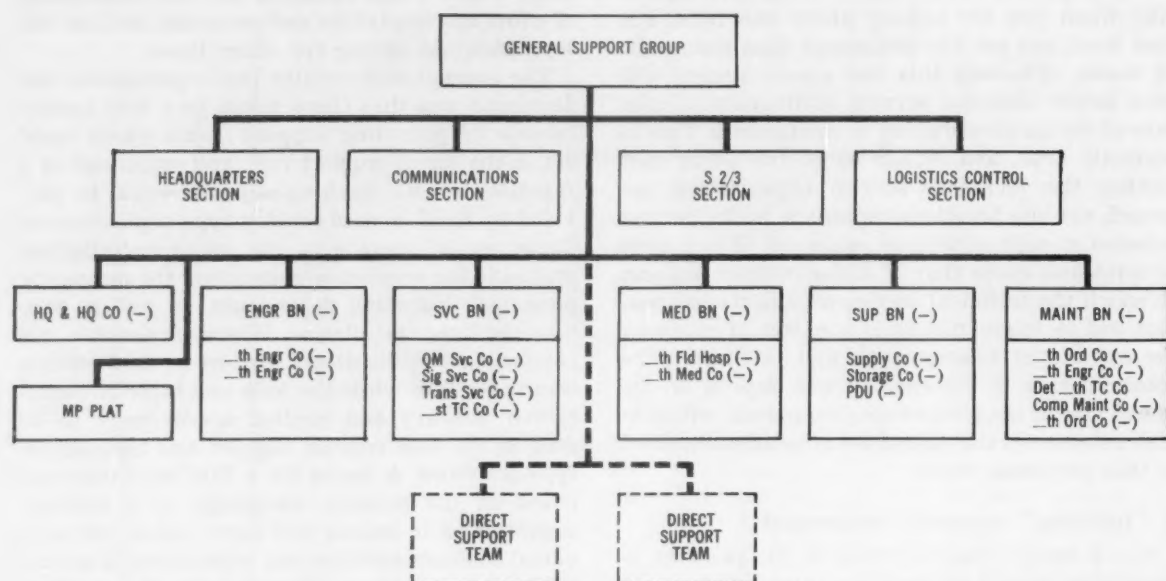
Sequence of development

The first step entailed the composition of the field echelon and direct support elements. This field echelon was not only to provide for logistical support of the combat forces in the field. It must also maintain and protect lines of communication and be able to defend those terrain features and areas critical to logistics activities. For both the direct support and general support echelons the requirement was stressed that the support command must provide its own protection since no combat troops would be diverted to this mission.

The second step developed the base or rear echelon elements required to provide back-up support to the field echelon.

Since the mission assigned to the support command included operation of the post of Fort Richardson and subposts, the third step in the organizational development was an examination of the garrison-type operational requirements against the background of the capabilities of the field echelon and the base echelon previously developed under the first and second steps. The

FIELD ECHELONS USARL SUPPORT COMMAND



principal purpose of this third step was to determine if any need existed for augmenting the capability of this field and base echelon to include performance of full-time garrison operations. Garrison functions which might be expected to terminate under combat conditions were to be provided for by field spaces when the field echelons were in a garrison status. The specific guidance was phrased in these terms: "Examination should be made of the possibility of assigning garrison missions to the field or base echelon before leaping to the conclusion that additional military or civilian personnel will be required."

Having determined the working tools and their shape and size for performing the mission, the final step was the development of an organization for the command headquarters suitable for controlling the operations of a field echelon and a base echelon.

While this approach in developing the organization was not revolutionary, it at least was logical from the point of view of preparing for ultimate objectives. It was interesting to observe in the developmental process the mental catharsis that occurred and the vigor in most quarters with which the new brooms were wielded.

Functions combined

The functions of a post headquarters and of a theater level supply and maintenance agency were combined under one command and staff headquarters. While a director type staff somewhat resembling a Type A logistical command was created, the resources in the form of troops and

facilities to accomplish the varied tasks were organized on a functional basis under the operational control of the directors concerned. For example, the director of maintenance has within his maintenance battalion the capabilities for maintaining engineer, ordnance, signal, transportation, aviation and quartermaster materiel. However, the functional aspect appears in the organization of the directorate and its battalion, with the functional or commodity type divisions of automotive and armament, aircraft, heavy equipment, guided missile, and electronics. Similarly, the directorate of supply and procurement has functions divided into stock control, storage, procurement, petroleum distribution, and ammunition. Just to prove that functional logistics can and should include administrative matters, we have added to the comptroller's responsibilities the function of machine records and data processing, including those required for personnel matters.

The concept of operation of the functionalized support command is that a field capability exists at all times in what is known as a general support group. This group consists of the field operating elements of the directors' offices and their supporting battalions. The base echelon is, of course, the remainder of the support command which mans the fixed installations or so-called rear echelon and of which the civilian employees form the principal elements. Since the support command is responsible for post type housekeeping as well as maintaining the combat troops under field conditions, it is the task of this base echelon to keep

the home fires burning and the post operating while the combat and support troops are in the field.

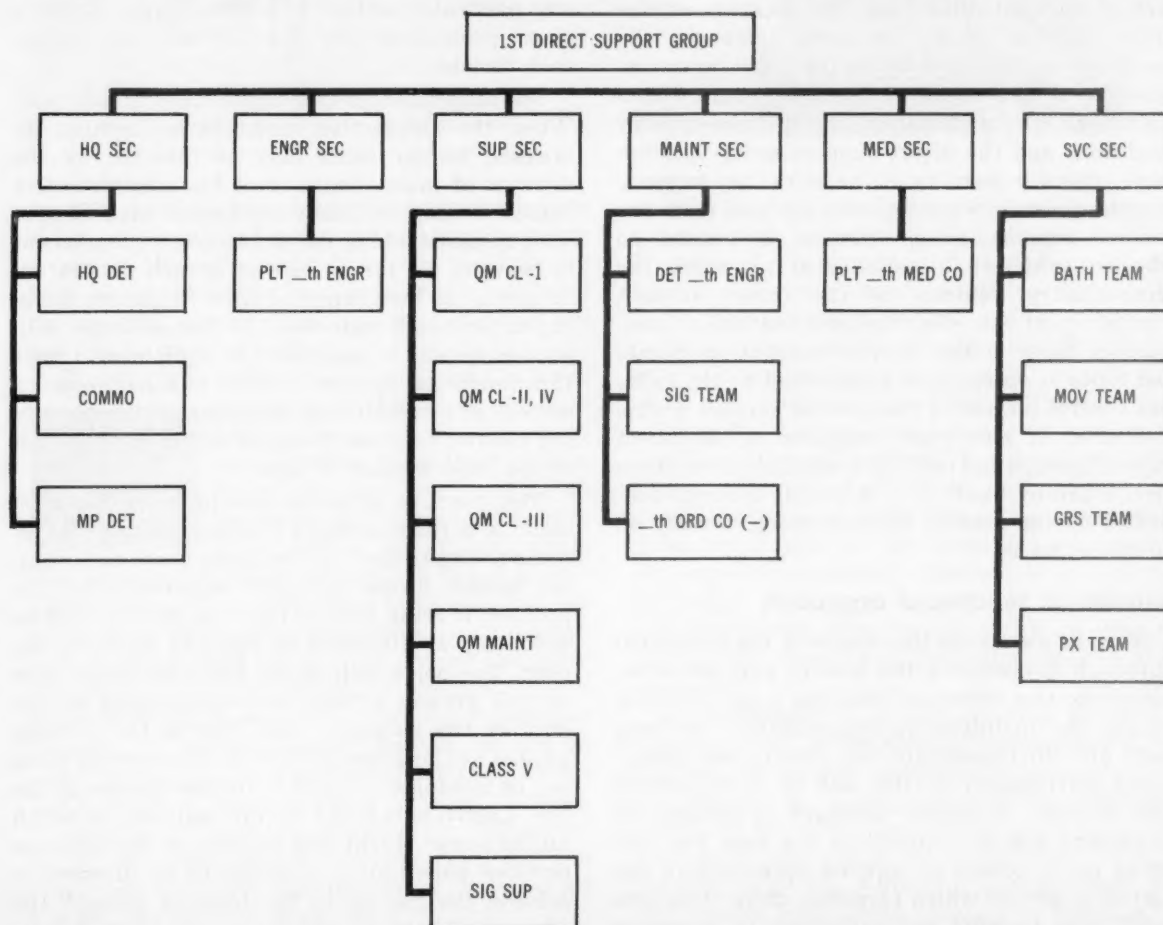
Now, let's look at the performance of the field capability. The field echelon was organized along the lines of a division level support organization on which experimentation had been conducted at the Army's Combat Development Experimentation Center. General support group was the name given to this field echelon which is composed of specifically earmarked elements of the support command. Thus, the units and staff officers who man the general support group for field operations know their assignments and work as a going organization in the field. Monthly alerts have been used as the training medium to weld these elements of the support command into a field-capable organization.

The heart of the logistical support planning and direction of operations is the logistics control section which is made up of the directors (or their assistants) of supply and procurement, maintenance, and services. The commanding officers of the engineer battalion and of the medical battalion double in brass as members of this logistics control section. This section operates on a man-

agement-by-exception basis and is responsible for plans, supervising logistical operations, and the necessary report and data collection activities concerned with the operational activities of the functional battalion elements. The battalions provide the operating personnel required for supply points, repair facilities, construction and maintenance of lines of communication, hospitalization and evacuation, and transportation movement.

Composition of DS group

A direct support group is formed from these battalions for immediate direct support to each battle group or unit of regimental combat team size that needs support. The exact composition of the direct support group may vary, depending upon the type of unit supported and its peculiarities in equipment. Normally, such a direct support group will consist of a maintenance section of approximately company size which provides repair service for vehicles, weapons, heavy equipment and electronics. Supply services are allotted a supply section which includes ration, POL, and ammunition teams. A service section furnishes bath, graves registration and transportation teams. A medical clearing platoon and a small



headquarters element for command communication and control completes the picture. The size of these groups varies between 200 and 300 men.

Each direct support group operates under a direct support group commander who reports to the general support group commander. At times, when distance from the general support group area warrants, these direct support groups may be attached to the combat unit which they support; but they still report logistically to the logistics control section at the general support group headquarters. These direct support groups are fully mobile and carry approximately one day of resupply for the supported forces in consumables and a 10-to-15-day back-up in parts.

Operationally, direct support groups are located close to the field train element of the unit they support. Resupply of the trains is on an exchange basis of issue—an empty container for a full one where possible—and use mechanical means such as roller conveyers or fork lifts for transferring pallet and unit pack loads from bulk storage vehicles to smaller ones. Wherever possible, vehicles with loads are transferred for through forward movement to the location of the trains. Maintenance emphasizes on-site repair by forward contact teams controlled from the location of the direct support group. In most instances the resultant service is more flexible and more responsive to the needs of the using unit. When operations are undertaken under cross-country conditions and the direct support group has the same vehicular mobility as the units they support, transfer point between delivery vehicles from the general support group (which is limited to wheeled vehicles) is established to which the cross-country vehicles of the direct support groups report and effect transfers of loads. Locations of those mobile support rendezvous points and times of operation are controlled by the logistics control section of the general support group. Deliveries of emergency supplies to the direct support groups and medical evacuation from those groups are by fixed- or rotary-wing aircraft controlled by the general support group, usually on an on-call basis.

Benefits in functional approach

Now, let's examine the results of the functional approach in operating the base or garrison echelon. Since this command also has a theater level supply and maintenance responsibility, we have been able to consolidate and standardize procedures, particularly in the field of stock control and storage. A simple standard procedure for processing supply requisitions has been put into effect which covers all supplies regardless of the technical service which furnishes them. This permits cross training and utilization of personnel

within the stock control division in editing and processing paperwork. Technical service qualifications are of course still necessary and are used in the function of stock management or requirements determination, particularly in analyzing the user's needs in the light of articles available in the supply system best suited to those needs. In the storage and distribution field, the functional approach has permitted the consolidation of all so-called "bin issues" or issues of small articles, and also in the consolidated locator procedures. Again, one benefit is the capability of cross-training and for cross-utilization of the picker and packer types regardless of the color of the scarf they wear on the job. By integrating the operation of a central receiving and shipping agency in the storage and distribution function, excess steps have been eliminated in the process of filling validated requisitions received from the stock control division. Both of these consolidations have considerably reduced order and shipping time. Since the director of supply and procurement has overall control exercised through these two division chiefs, he has achieved greater flexibility in allocating skills and just plain manpower to shift his work effort commensurate with the backlogs in any particular section with a minimum of effort since procedures are standardized throughout each division.

The same has held true in the maintenance field. When the automotive maintenance backlog increases, similar skills may be diverted by the director of maintenance from his administrative vehicle branch or heavy equipment maintenance shop to assist where the workload of the moment is heaviest. So far no case of branch frustration or ulcers has been reported from Engineers working on Ordnance materiel or Ordnance Corps technicians helping to maintain QM equipment. Under this functional system a motor is a motor and a wrench is a wrench, and the primary mission is to get the two together to insure return to operation in the least amount of time.

The one area in which less progress has been made is in the exorbitant number and types of reports to Department of the Army based on technical service forms and data requirements. This problem is being analyzed and suggestions will be submitted as glimmers of daylight begin to appear. The opportunities for throwing more light on this greater problem are encouraging in this land of the midnight sun. This is the proving ground at the grass roots level, from which facts can be developed to assist in further studies up the line. Lastly, this is the operational area to which all the power, might, and majesty of the technical services potential is supposed to be directed to achieve the pay-off in the form of prompt and adequate logistical support to the combat user.

Shoot Down Those Errors Early

By Lt. Col. FORREST K. KLEINMAN



MEN do in combat exactly what they have been in the habit of doing in training. Replacing wrong habits with right habits is the training task. The right habits must be so deeply ingrained by constant practice that correct responses are instinctive under stress.

Though these words of General Bruce C. Clarke are as up-to-date as the Redeye target-seeking missile, the axiom was old when Greek stone cutters posted the first draft notice on the walls of Troisen in 480. B.C.

For countless generations, countless commanders have repeated it like a litany. Yet countless lives and battles have been lost because of bad habits that were acquired in training.

Granted that the lag between precept and practice never closes; nevertheless, practical experience can suggest ways to reduce its length and lethality. In today's Army, however, promotion and retirement have winnowed much of the combat experience from the ranks of frontline units. Consequently, tactical training is conducted largely by young officers who have never had the opportunity to see the results of uncorrected training errors on a battlefield.

BATTLE TRAINING TIPS

With this in mind, I have solicited training tips from officers with outstanding records in World War II and Korea combat. What follows is based upon their comments and suggestions for building battle-winning habits in small unit problems.

The common practice of using the critique as a catch-all for correcting errors of execution in small unit problems is bad-habit-forming.

Since the conventional critique is held at the close of a tactical exercise, it cannot deal effectively with individual errors in the context of commission. Usually, the time allotted is whittled down by delays in the execution of previous phases. Often audience attention is low because of hunger or fatigue. At best, the critique only tells the soldier what he did wrong; it does not provide for practical application of the right response.

In other types of military training, the critical importance of on-the-spot correction is well recognized. It is normal procedure in close-order drill, for example, to halt a movement for instruction whenever mistakes are made and to repeat the movement until proper execution is habitual. On the rifle range, the coach and pupil method—plus supervision from tower, firing line and pit—in-

sure that mistakes are rectified in the context of commission. At the slightest infringement of safety rules, an instructor never hesitates to suspend all firing until regulatory action has been taken.

Only in the conduct of tactical problems is correction commonly postponed until the practical application phase of instruction is terminated. Yet no other type of training is more habit-forming for battle—where penalties for malpractice are drastic and often instantaneous. So the first tip is:

Integrate a "running critique" into all small unit tactical exercises.

This can be done without loss of continuity by using a jeep-mounted loud speaker for control, correction and instruction during the progress of the problem. At any point desired, the instructor-umpire(s) can freeze and resume execution—either by oral or whistle signal. Such pauses in place allow on-the-spot correction of unit errors, injection of new situational developments resulting from previous actions, and timely explanation of tactical principles involved.

To permit speedy correction of individual errors on the move, soldiers engaged in an exercise

should wear large numbers on oil cloth panels (front and rear) for ready identification. Errors in individual tactics should be the basis for declaring casualties during the problem and for subsequent make-up training. In early periods of unit training, casualties—but not correction—may be confined to flagrant or repeated errors. As training advances, however, the casualty standard should become more and more stringent. For psychological effect and ease of identification, casualties may be marked with catsup or red chalk.

Just as with combat errors, the incidence of training errors should be reduced as much as possible in advance. On-the-ground demonstration is much more effective for accomplishing this than either classroom or open-air oratory.

With the possible exception of unit tests, the execution of small unit tactical problems should be preceded by a realistic demonstration of a sound solution.

Incorporating a running critique and demonstration into the conduct of a tactical problem increases the time requirement. But the increase is more than offset by the decrease in the total time required for a unit to attain combat readiness. This fact should be appreciated fully at the training schedule level of planning.



Whether it's machine gunnery, artillery fire, armored vehicle reconnaissance, antitank firing with the new XM-72 grenade, or map reading, the way to do things the right way in combat is to do them the right way in training.

Anywhere a soldier can point his weapon is good terrain for a small unit problem

Even within the confines of a tight schedule, there is much that any unit commander can do to make training time go farther. The time-stretching formula applies to all military leaders.

The training of leaders should always anticipate the training of the troops they lead.

Every officer knows this principle, of course, but there is a growing tendency to forget that it applies to noncommissioned officers down to and including the squad leader. So say some combat veterans who have observed recent tactical training. Hence their next suggestion:

Conduct a tactical walk of the problem for junior officers and noncommissioned officers at least a day before their units are scheduled to execute it.

This tactical walk should not be misconstrued as merely a reconnaissance of the training area or a dry-run. It must be a carefully planned training exercise on the same ground and with the same situation and requirements that their units will experience. To avoid interference with concurrent unit training, the NCOs may be divided into two or more groups and the tactical walk repeated accordingly.

Using tactical walks to instruct leaders in advance, will greatly reduce their errors during execution of the problem. Not only will fewer mistakes by leaders save time and enable them to devote closer attention to the performance of their units, but it will foster the confidence and respect of their subordinates.

Many training-acquired bad habits stem from mistakes made in laying out tactical problems. The most common mistake is "miniaturization." This planning defect produces problems on too small a scale for the ranges of infantry weapons—particularly of direct fire weapons.

Miniaturization usually results from one or more of the following misconceptions in the mind of the tyro planner: That execution of every problem must cover all phases in a single period of instruction—regardless of the time allotted by the training schedule (that is from assembly area to defense of the objective against counterattack). That the execution of a problem should be visible from a single vantage point for reasons of control or to impress visiting observers, or both. That heavy weapons should physically accompany the units they support. That combat resembles tactical training films—and even Hollywood war



movies—in which dispersion and measures of concealment are drastically reduced or ignored because of camera and script limitations.

The earmarks of miniature tactical problems bespeak the combat product: lines of departure swept by direct enemy fire . . . units halted in the open under the lethal illusion that they are out of enemy range . . . security elements and their parent units hit by direct fire simultaneously and from the same enemy source . . . mortar and machine gun crews pinned down with the units they support instead of in position to furnish planned fires instantly.

The range finder is an effective tool for avoiding miniaturization in planning tactical problems.

During preliminary reconnaissance of the problem area, distances between key terrain features should be noted and related to the ranges of weapons. This information provides a framework for developing a realistic situation for the problem. In fleshing out the framework, situations and solutions of all other problems should be forgotten and only tactical principles applied to the terrain.

The next planning step is to write out in detail a sound solution to the problem. In the process of solving his own problem, the planner eliminates bugs and provides the scenario for the tactical walk and demonstration.

A common mistake in the preparation of the planner's solution and demonstration scenario concerns the selection of sites for OPs, CPs, and heavy weapons positions. Too often, they are obviously the *best* sites. In combat, the obvious can be dangerous. Obvious locations for key installations and weapons are usually goose-egged on the enemy's plan of prepared fires. The obvious route of approach is most likely to be mined and covered by heavy fire.

The tactical training ground—not the battlefield—is the best place for troops to learn to avoid the obvious.

This applies to individual as well as unit tactics. Problems should incorporate enemy tricks and booby traps similar to those used in combat. For example, our troops in North Africa often found slit trenches conveniently located for their protection in the vicinity of obstacles and enemy minefields. When they attempted to use the slit trenches under fire or during demolition operations, they discovered too late that the slit trenches were mined.

Having planned a realistic problem and procedures for making correct responses instinctive under stress, do not cut the problem down to fit a single period on the training schedule. Instead, divide the problem into distinct phases for execu-

tion to successive periods devoted to the same or related training objectives. Treat each phase as a problem in itself.

Even if the training schedule makes re-use of the same area impossible, it is much better to properly execute one phase of a problem than to rush through all. As one MH winner pointed out, the average soldier spends only a small fraction of his peacetime duty day doing what he will do in combat. He spends even less time doing things the way he must do them in combat. Consequently, it is imperative that not a minute of his tactical training time be wasted by allowing him to do anything the wrong way!

Make the most of the time and effort already invested in a tactical problem.

It is both uneconomical and unnecessary to use a different tactical problem and training area every day. The same basic situation and terrain can provide a realistic and time-saving basis for practical work in many related problems or sub-problems. A single problem can be used to teach everything from scouting and patrolling to mobile defense. Doing so gives trainees a sense of continuity and a grasp of tactical relationships. Moreover, it is more in accord with actual combat since units often fight for many weeks in the same area—sometimes to achieve the same objective.

Even administrative and technical instruction is more interesting to soldiers when presented in the context of a combat situation and related to specific tactical objectives. One infantry veteran of two wars voiced the thought-provoking opinion that virtually all military skills should be taught in the context of specific tactical problems—beginning very early in basic training!

The final tip deals with the first mistake of many problem planners—the search for “ideal” terrain. Selecting areas according to preconceived patterns of high ground, vegetation, and avenues of approach, builds a false picture of the battlefield in the mind of the soldier.

In combat, there is no such thing as ideal terrain for tactics. The enemy is always where you find him, and he always does his best to make it a surprise. Many of the most important battles of recent wars have been fought in places more like our barracks areas than our training areas.

There is good terrain for a small unit problem anywhere that a soldier can point a weapon.

Consequently, a realistic tactical exercise can begin at any unit's front door. In fact, it is possible to conduct a full-scale tactical problem without ever leaving the barracks area. It is even possible to use a squad-room window for the OP of a full-scale mortar range on which unlimited rounds of ammunition can be fired safely and just as accurately as on a live-fire range.

NATIONAL INTEREST

NATIONAL SECURITY

NATIONAL POWER

These concepts tend to blur together but it is useful to look at each separately

By Col. R. W. VAN DE VELDE

THE three concepts in the title are used by many of us in formal and informal talk. But a clear understanding of what each means is by no means common; pin a friend down to define each and you will probably hear some groping, frizzy language.

Now those who have studied national and international affairs, even those who have made no formal studies in these subjects but have considered them seriously over any length of time, may find little new in what I am going to say here about these concepts. But the soldier who has thought little about them may find what I have to say useful.

NATIONAL INTEREST

First, National Interest. What is it? It may quite properly be any of a lot of things, or a combination of many things. One can, for example, quite legitimately say that it is in the U. S. national interest to have Cuba return to the family of free nations and achieve economic progress and social justice. Equally validly one can say it is in our national interest that France remain firmly in NATO and maintain or increase its strength. Obviously, these are quite different, and even unrelated national interests for the United States. They are national interests of

different weight or priority too. Any number of other examples can also be found. For instance, we want to live at peace with everyone, but we don't want anyone to dominate us. These are national interests also.

These examples should be enough to indicate the looseness of the term national interest. They should be enough to prove that there is no such separate thing as *the* national interest, just as there is no such thing as *the* U. S. foreign policy. What is true of one is true of the other. There are a multitude of each. This is so because the realization of a national interest means the achievement of a certain goal. And the means or methods of achieving these goals is through foreign policy. Thus, we have a whole lot of different goals and a whole set of policies to match them.

Furthermore, there are not only differences among these; there may be actual conflicts between some goals and therefore conflicts arise between the various foreign policies designed to achieve them. Evidently these factors complicate life and increase the ulcers and the heart attacks of national policy makers.

Despite all this there is a way to bring some order out of what appears to be chaos. The first step might be to sort things out on different levels of importance. What national interest is it which is paramount to all the other national interests? Can we find *one* which stands at the

top of the pyramid as the most crucial national interest or national goal of all?

Several scholars have done this, and I am inclined to agree with the statement which Dr. Walt Rostow made while he was still with MIT's Center of International Studies. (He is now an assistant to the President.) He said that the paramount, the essential U. S. national interest is "to maintain a world environment for the United States within which our form of society can continue to develop in conformity with the humanistic principles which are its foundation."

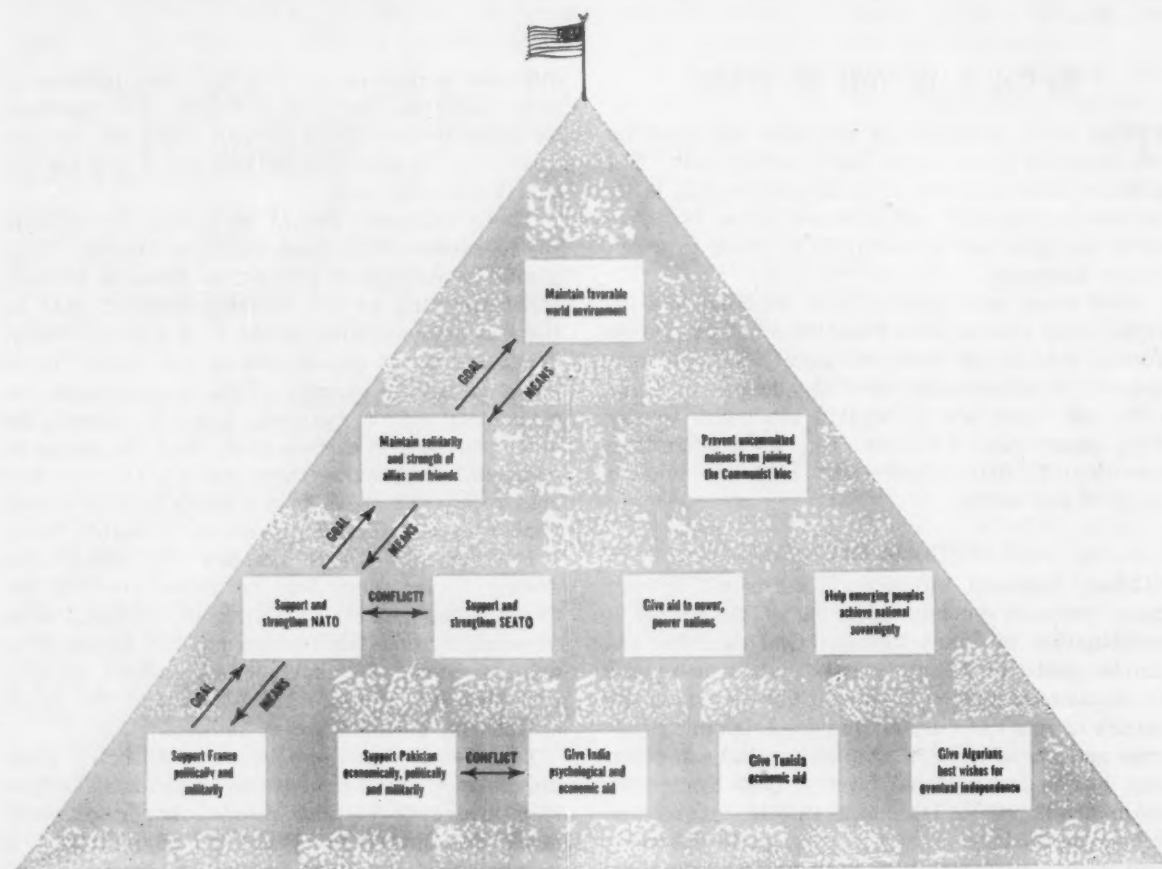
To clarify this question of levels of importance building up toward a pyramid at the apex of which is the paramount national interest, it may be helpful actually to draw a pyramid and to fill in some of its blocks with examples. Now at the apex of the pyramid one can put Professor Rostow's *the* national interest as an example of a generally-worded and generally-accepted goal towards which all national effort should be directed.

What are some lower level, but still generalized national interests? There are any number, depending on what part of the world one looks at and in what period of time one is looking. Shown

on the drawing below are some examples which may be useful in illustrating the thoughts expressed here.

The number of blocks one could draw at any level, except at the top, are many, and possibilities increase as one goes down the ladder to lower and lower generalizations, toward more specific situations in time and space.

There are some other important things to note about this way of thinking about the national interest. Going from the bottom, each higher level appears to be a *goal* or an objective to be reached next. But looking from the top downward, each successive interest appears to be one *means* for achieving the goals above it. For analytical purposes this concept of duality between objectives and means, depending upon whether one is considering a higher or a lower generality of interests, is useful to keep in mind. But it also helps illustrate the complications of life in international affairs. It tends to bring out quite clearly why there is often quite legitimate confusion between *ends* and *methods*. One does not have to look first upward and then downward to see the duality of the levels. One also sees this complexity by looking farther forward. This brings



THE PYRAMID OF NATIONAL INTERESTS

up a couple more terms which are also highly flexible and which therefore often lead to confusion. These are "long-range" and "short-range." One can therefore say that looking upward (or forward in time) the nearer blocks constitute short-range objectives. These then also constitute the *means* to still longer-range objectives located farther up the pyramid.

Confused? Well, there is still more confusion. Looking across the pyramid at any given level of blocks one will often find that the national interests expressed on the same level of generalization are in conflict with one another. But that is, of course, also a fact of life and that is why we seem to work at loggerheads with ourselves in our international operations. For instance, we tend to encourage the Algerians in their desire for independence, while at the same time we urge President DeGaulle to keep France strongly in NATO. But France's available troops have been mostly in Algeria for some years, trying to put down a rebellion. We give the French very strong military assistance; but at the same time, we do not support France in the United Nations *vis-à-vis* Algeria. The same sort of dilemma faced us in the outbreak of fighting between the French and the Tunisians over the Bizerte air-naval base and the question of sovereignty in the Sahara. We recognize and sympathize with France's need for bases and for oil, but we also recognize and sympathize with a new nation's sometimes extreme nationality and claim of total sovereignty.

We militarily support Pakistan and we economically assist India. But these two nations have been and remain viciously opposed to one another over certain questions, particularly Kashmir.

In saying this, one need neither applaud nor condemn any of these means. By itself each would appear to be legitimate. Nor need one criticize the ends sought, for these also appear to be proper for a nation to seek in pursuit of its own national interest. What is being emphasized here is the idea of the complexity of the concept *the national interest*.

NATIONAL SECURITY

Now let us turn to the concept of National Security. This does not need to be very much labored. It is obvious that the concept is a complex of interrelated and interacting factors; that there is a close parallelism between national interest and national security, and for that matter, between the two and *national power* which will be discussed next. A few ideas are perhaps worth specific mention.

National security is both an external and an internal matter. Externally it involves the whole question of our stature *vis-à-vis* the rest of the

world powers, singly or in any possible combination. Therefore, it involves our foreign policy or policies; and it involves our treaties and alliances and the alliances which are, or may be, aligned against us.

In a world of nation-states, one nation cannot afford to look only to the front. It is necessary also to look to both sides and even frequently to glance backward over one's shoulder. For while the enemy of yesterday may become the friend of today, it is unfortunately equally true that the friend of yesterday, who then stood firmly behind you to urge you on, may today or tomorrow feel differently. And the worst place to let that kind of a friend stand is at your back. So there must be a continuing assessment and reassessment of all other nations.

External national security involves also the disposition of our bases abroad and the deployment of our troops on foreign soil and on our own outposts. It encompasses the availability, the strength and the state of readiness of our forces which could be deployed abroad if and when needed. It involves, of course, our defensive striking ability. All this part of our concept of national security has to do with our retaliatory capabilities—how well we can fight if we are forced to. This is a part of what is called our deterrent posture.

The other part of our deterrence has to do with internal national security. This is more passive in nature than the external aspects. This internal national security involves our ability, not to strike back, but to minimize the effectiveness of the hostile efforts of possible enemies. Internal national security includes, or should include, a system of civil defense. In this context, civil defense means a method of protecting against attack those elements of the nation considered important to its survival—including the nation's population. A further aspect of internal national security necessarily implies a system for protecting ourselves against espionage, sabotage, and subversion.

NATIONAL POWER

The ability of a nation to remain secure and to achieve its national interests depends on its National Power, if one defines power in a very broad sense and by no means limits this to mere military might. One of the most complete treatments of this concept of national power is to be found in *Foundations of National Power* (by Harold and Margaret Sprout, revised edition 1951, Van Nostrand & Co.). Much of what follows is developed from readings in that volume.

Different persons have applied different terms to national power—perhaps one of the most useful is "capabilities." Fundamentally, the capa-

bilities of a nation rest on its resources. What are national resources?

There are, of course, the so-called natural resources which come readily to mind. First, minerals—iron, coal, oil, uranium, bauxite, and so forth. All these are exhaustible resources—once used they are gone—there is no replacing them. If a nation uses them up or has none to begin with, it has to make do with substitutes. And, then, there are the replaceable natural resources. Although the time, effort and money involved in replacing them varies, they are replaceable. These would include wood, water, rubber, food products, and so on.

There are also geographic resources, but here perhaps the word "assets" is a better one than resources. Geographic assets would include factors of place, size, shape, and contour of that portion of the earth's surface controlled by the nation which help it to conduct effective policies designed to achieve its desired goals. Where a nation is situated in relation to other nations, in relation to oceans and so forth has a great bearing on its goals and its capacity for pursuing them. The same is true of its climate and its contour—the size and placement of mountains, plains, and valleys. Russia's lack of warm water ports has not only essentially shaped her national interests and goals but has also at least up to now affected her capabilities for realizing her goals. Germany's position athwart Europe's northern plain has shaped in part her goals and her policies for a long time. Switzerland's perch on top of the Alps has certainly had an effect on her foreign policy. Such influences are so important that it is easy to stray into the blind alley of geographic determinism. Important as it is, geography is *not* the determinant of national policy any more than a number of other considerations.

Another resource is manpower. And how much of an asset or liability population numbers can be rests on several things. A burgeoning population is apt to be a liability if it outstrips the means to feed, clothe, and shelter it. Most people now consider that India and China are suffering from this liability. Within the population itself there are also factors affecting the worth of mere numbers of people: How healthy is it? How young or old is it? How many of it are men, how many women?

Then there are the resources which are more difficult to define but are nonetheless very important in the analysis of a state's power and capability. These actually are more in the nature of what a nation has done with its resources, or can do with its resources, than they are in themselves resources. For example, the educational level of the people is perhaps more how the re-

sources of manpower have been enhanced and used than it is that a high literacy rate and sound education are *per se* resources. Other factors falling in this same sort of unclearly defined category are: the level of technical advancement of a nation; the efficiency of a nation's production system; the efficiency of its communications network; the efficiency of its transportation and distribution systems; and the skill of a nation in combining and coordinating the use of its various assets. And, one might add, the skill of the nation in making do—in surmounting the lack of resources of one kind or another.

There are other resources which should be considered though they are even more difficult to measure and define than those above. They include, for instance, the moral and mental toughness of a nation and the wisdom and effectiveness of a nation's leadership, the efficiency and stability of the nation's political structure and the general reservoir of potential leaders of the country.

Anyone seriously considering this question can think of other resources or assets or capabilities which belong in such a catalog. There is one which most people, in any country, regard as paramount in making national power. That is the military strength of a nation.

There is the story that during World War II someone said to Stalin that something he proposed would not be happily received by the Catholic Church. Stalin's reply was said to have been, "And how many divisions has the Pope?" This is perhaps apocryphal but it is also a fair indication of the limited fashion in which many people measure national power. Even if one is tempted to reduce the yardstick of national power to the military only, it is obvious that this can not be a question of numbers alone.

The physical condition of the forces, their morale, the effectiveness of their leadership, the soundness of organization and training, and so on, are all factors to be considered in weighing military strength. And so one drifts naturally back to weighing exactly many of the resources mentioned above which affect the strength of the whole nation of which military forces are only a part and a reflection.

The concepts of national interest, national security, and national power are analytically separable, but in actual practice they are so interdependent and so interacting that they tend to blur one into the other. It is useful for the strategists and the makers of national policy, whether they be the real thing in Washington or Walter Mitty in an ill-fitting recruit's uniform, to think of them separately. Both ends of that spectrum, and all the people in between have a vital role to play in all three.



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Seminole attack on a blockhouse as visualized by a contemporary artist who probably never saw a Seminole or enjoyed the Florida climate

SEMINOLES IN THE EVERGLADES

A case study in guerrilla warfare

By Lt. Col. JOHN B. B. TRUSSELL

SOMEONE once observed cynically that the reason history repeats itself is that people fail to learn its lessons. But to learn the lessons thoroughly, it is essential to read the right chapters in the history books.

Certainly, despite the great question-mark posed by the nuclear weapon, a great deal of lasting value can be learned by analyzing the reasons for failure or success not only in the Korean War and World War II, but also in the conflicts which came long before them. At the same time, the classic campaigns on which most study has been focused do not encompass the full spectrum of significant types of military activity. Events in such areas as Algeria, the Congo, Laos and Vietnam suggest that there is a growing realization of the importance of tactics for dealing with guerrillas. And this is a field of activity on which the record of formal military operations casts relatively little light, for guerrilla warfare tends to

function according to a number of rules of its own.

Actually, guerrilla and counter-guerrilla operations are a very primitive form of warfare. Usually, the tactical and terrain conditions which permit guerrillas to survive as a military threat are of a type which greatly restricts or even prevents the use of much of the modern hardware so important to conventional forces. Hence, in many respects the essential nature of guerrilla and counter-guerrilla actions has been relatively unaffected by factors which have brought marked changes in other forms of warfare. Past experience in this field, therefore, is especially valuable as a guide to combat that could occur today.

The records of the United States Army are full of practical lessons in counter-guerrilla warfare—lessons learned in the hard school of experience during the Indian wars which lasted throughout virtually the entire nineteenth century.

Of all these campaigns, that which in many

ways was perhaps the most trying of all, and which offers particularly striking parallels to possible modern situations, was the war against the Seminoles in Florida. Ironically, however, it is probably among the least known of our Indian wars. When referred to at all, it is usually mentioned only in the most general terms, and written off as one long example of mismanagement and inefficiency. Certainly, examples of both can be found. Overshadowing these, however, is the clear picture of the Army's dogged determination, cold courage and unfaltering endurance in the face of a savage opponent, the scourge of disease, and the rigors of a cruel climate in a sweltering wilderness.

Some features surprisingly modern

The war's scope itself entitles it to particular consideration. From 1835 to 1842—for almost seven years—the bulk of the Regular Army and thousands of militiamen united in an effort to force the Seminoles to move out of Florida. In the attempt, the United States poured out more than \$40 million—a substantial sum for those days. More significantly, this one war cost the lives of more soldiers than all the other Indian wars of the nineteenth century together. In the end, one soldier's life and approximately \$10,000 had been expended for every Seminole who was killed or forced to emigrate.

These facts are no reflection on the ability or energies of the men who directed and fought the war; they merely emphasize the difficulty of their task. As a matter of fact, their imagination and resourcefulness are suggested by many of the war's features which seem surprisingly modern. Among these were joint operations, pyrotechnics, collapsible ponton bridges, rockets, and a proposal (promptly rejected, however) to use aerial observation. Possibly most striking of all is the fact that the courses of action that were successively tried and discarded correspond exactly to approaches we have frequently seen tried again (and with no more success) in counter-guerrilla operations of recent years. As a case study, therefore, the Seminole War would seem to offer lessons which today could be of direct value in any comparable operations.

Three fundamental approaches were adopted in Florida, marking phases into which the war can be divided. First, there was the attempt—almost by reflex—to seek out the enemy and defeat him in battle. When the elusiveness of the Indians made it obvious that this approach was not effective, the plan changed to an effort to contain the Seminoles in a no-man's-land, remote from settled areas, where they could be weakened by repeated thrusts, and to immobilize those who slipped through the outposts. The third and final phase

occurred when it was realized that, if the enemy himself could not be found, he could still be defeated by destroying the sources of his ability to continue fighting.

The enemy seizes the initiative

The first phase began immediately after hostilities opened on 28 December 1835. On that day, a band of Seminoles had ambushed a column under Brevet Major Francis Dade, marching from Fort Brooke, on Tampa Bay, to Fort King (present-day Ocala). All but three of Dade's 110 men were massacred. The area commander, Brevet Brigadier General Duncan Clinch, moved at once to find the Indians, but they found him first. On 31 December, when he had reached the Withlacoochee River and crossed about half of his force, the Seminoles struck the troops on the far bank. Clinch beat off the attack, but heavy casualties and dwindling supplies forced him to fall back to his base at Fort Drane.

Considering the slow communications of the times, help was on the way in remarkably short order. Major General Edmund P. Gaines, the department commander, took prompt action as soon as word of the uprising reached him at New Orleans. Quickly assembling a force of 1,100, he arrived at Tampa Bay on 10 February 1836.

Gaines's idea was to seek out the Indians and end the war by defeating them in battle. Therefore, although his supplies were limited, he struck out energetically for the interior. On 22 February his column reached Fort King, having met no Indians on the way. At this point, Gaines learned officially that he had been relieved of any responsibility for operations in Florida. Over-all command had been assigned to Major General Winfield Scott. President Jackson wanted Gaines on the western border to make sure U. S. neutrality was not violated in the developing quarrel between the Texans and Mexico. Therefore, after replenishing his supplies—and thereby seriously depleting the reserve stocks for future operations—Gaines started back toward Tampa. On the way home, he might as well be ready to fight any Indians he happened to meet.

Again, it was the Seminoles who took the initiative. They struck Gaines, as they had Clinch, while he was trying to cross the Withlacoochee. After a week of fruitless attacks, however, they asked for a parley. They were in the midst of discussing terms for an armistice when the advance guard of a relief column under Clinch rode into view, saw the assembled Indians and immediately opened fire. As one witness wrote, "This broke up the conference." Gaines then returned to New Orleans, leaving Scott to run the war.

Scott planned an operation on a grand scale, but its objective was still to defeat the Indi

direct attack. Using three columns, he would herd the Seminoles into the relatively confined area of the Big Cove Swamp in the great bend of the Withlacoochee. There, by a coordinated movement, the columns would converge to surround the enemy with overwhelming force. One column, from St. Augustine, was to swing south and west toward the objective area. A second force was to close on it from Fort Drane. A third column would come north from Tampa Bay.

Scott's time table proved grossly optimistic. All supplies had to be transported, so the columns were slowed by sizable wagon trains. Adding to the delay was the necessity to build roads ahead of the wagons. By the first week of April, all three of the forces were out of rations. When they converged, it was not on the assigned objective area, but on the supply depot at Fort Brooke. They had seen some brisk skirmishing, but the Indians had avoided any large-scale engagement.

Summer was now approaching. Scott reasoned that its great heat and the inevitable rise in the sick list would require suspension of any further major operations. Before the end of May, he had been ordered elsewhere; and the Florida war for a time deteriorated into a succession of Indian raids and sporadic military patrolling.

Late fall brought a new commander—Major General Thomas Jesup—but the same old concept of operations. Jesup promptly put his finger on

the problem. "The difficulty," he reported to Washington on 12 January 1837, "is not to fight the enemy, but to find him." At times, this difficulty solved itself. One such occasion arose on 6 February, when a body of Indians carried out a three-hour attack on the garrison at Fort Mellon. There were indications, however, that the mounting toll of Indians killed or captured in the frequent patrolling was beginning to have an effect. Early in March, Seminole leaders made contact with Jesup to talk peace, and for a time it looked as though the war was over. Jesup mustered out the militia and planned to redeploy most of the Regulars. Settlers began returning to their homes. But before any of the Seminoles who had gathered for emigration could actually be moved, they changed their minds. Overnight, they melted away into the swamps again. The chagrined Jesup had his whole task to do again. But another summer had already begun and further operations would have to wait for better weather.

Security first, then action

The first major expedition of the next campaign season yielded a substantial success. In early September 1837, a force under Brigadier General Joseph Hernandez captured two bands near Mosquito Inlet. Out of patience, Jesup also seized Indians coming into the scattered posts to parley. Among the prisoners taken in this fashion were Coacoochee, or Wild Cat, and Osceola, two of the ringleaders of resistance. Coacoochee escaped within a few weeks, but Osceola soon died in prison.

Jesup next mounted a vigorous, coordinated campaign aimed at smashing all remaining resistance. Part of his command was given the mission of providing security for the settled areas in the northern part of the Territory. The remainder formed a striking force, organized into four main elements. One of these, under Hernandez, was to drive south from St. Augustine, clearing the Atlantic Coast region. A second, commanded by Brigadier General Abraham Eustis, would move down the west coast. A third force, led by Colonel Zachary Taylor, who had just arrived in Florida, was to march south and east from Tampa Bay into the interior. Finally, a force under Colonel Persifor F. Smith, based on Charlotte Harbor, would operate on the western edge of the Everglades.

This campaign's basic objective was identical with the one that Clinch, Gaines and Scott had previously failed to achieve. However, Jesup now had more than 8,000 troops, plus some naval support. Also, learning from Scott's supply difficulties, he had carefully planned his logistics. Naval supply ships were to rendezvous with



After seven years of protracted guerrilla conflict in the Florida swamps the Seminoles were subdued

the columns working near the coasts. Taylor, marching inland, was to send detachments ahead to establish fortified depots and stock them with supplies, thus establishing bases for operations still farther into enemy territory. Jesup also set up a system of rocket signals to insure coordination between columns fighting in the same general vicinity.

"They used legs instead of arms"

This campaign achieved some definite results. Taylor, reaching the northeastern shore of Lake Okeechobee by Christmas Day of 1837, attacked and defeated a major Seminole force in the greatest pitched battle of the war. A month later, Jesup struck and defeated another force of Indians at the Locha-Hatchee, supporting his infantry and dismounted dragoons with the fires of artillery and Congreve rockets. What execution the rockets did is not recorded, but undoubtedly, their flame and noise had a considerable psychological effect on the Indians.

Hard hit, the Seminoles again requested a peace conference. When negotiations failed to bring a settlement, however, Jesup did as he had done before and seized the Indians who had gathered to confer. But considerable numbers of others were still at large, chiefly in the Everglades, and resistance was by no means stamped out. On 15 May 1838, thoroughly frustrated, Jesup requested relief from command. He was replaced by Zachary Taylor, a brevet brigadier since the Battle of Lake Okeechobee.

With six months of Florida campaigning behind him, Taylor had a new approach. He planned to establish a line of posts from Tampa Bay to New Smyrna and carry out intensive patrolling to drive the Seminoles from northern Florida into the region south of the line. But, as he complained in a rather well-turned phrase, "The enemy have determined to use their legs instead of their arms." In desperation, he suggested that bloodhounds bought in Cuba be used to seek the Seminoles out. When the hounds were tried, however, they proved completely useless.



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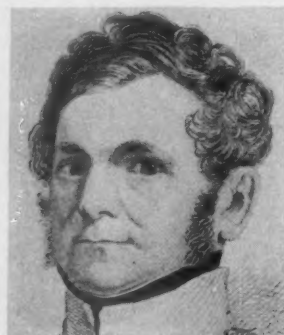
ZACHARY TAYLOR



National Archives

OSCEOLA

Best remembered of the Indian leaders of the Seminole wars was the half-breed, Osceola (his mother was a Creek, his father an Englishman). The names of American commanders who experienced the frustrations of seven years of guerilla conflict constitute an almost full roster of American military leadership during the first half of the 19th century. Four of them are shown here.



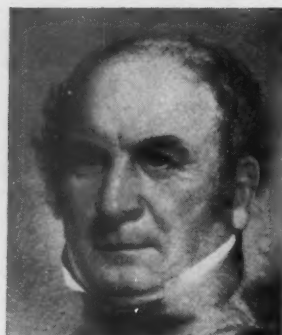
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W. J. WORTH



National Archives

PERSIFOR SMITH



Keenan Library of Seminole War

ABRAHAM EUSTIS

Taylor then modified his approach. He divided that portion of Florida north of the Tampa Bay-New Smyrna line into districts 20 miles square and started building strong-points, one to each district. These were to be garrisoned by 20-man detachments, charged with scouring their districts every second day. This plan was designed to prevent all movement by the Indians. It had been put only partly into effect by April 1839, when the General-in-Chief of the Army, Major General Alexander Macomb, arrived to conduct more negotiations. The Seminoles accepted his offer to let them keep the southwestern portion of the peninsula if they would end their raids, and Macomb left for Washington, satisfied that he had brought hostilities to an end. But Indian attacks continued, climaxed in July when a detachment of dragoons on a friendly mission along the Caloosahatchee River was attacked during the night and almost half of the soldiers were murdered. Clearly, a final solution was as remote as ever.

The course adopted for the fall of 1839 was a modification of the previous year's plan. This time, the line of outposts across which the Indians were to be driven was drawn from the mouth of the Withlacoochee River to Pilatka—100 miles farther north than the earlier line. Within this more confined area, Taylor could intensify his patrolling. As a matter of fact, Indian raids on plantations and isolated settlements ceased. Feeling that all significant resistance had ended, Taylor asked to be relieved. On 11 May 1840, he turned the command over to Brigadier General W. K. Armistead.

Under Armistead, operations consisted chiefly of a continuation of Taylor's program, plus individual expeditions sent more or less blindly into the Everglades to capture or kill any Indians encountered. It was during this period that Colonel John H. Sherburne suggested that balloons be used to send observers into the air at night to look for Seminole campfires and tell the troops on the ground where to find the enemy. "The observer," he added hopefully, "may be enabled even to destroy some of the hostiles from the air with a musket." Any merits of this recommendation remained hypothetical, because the suggestion was not accepted. Marked by isolated raids and uncoordinated patrolling, the war seemed no nearer an end than before.

At the end of May 1841, Colonel William J. Worth replaced Armistead. Like Taylor, he brought to his new assignment several months' experience against the Seminoles. This had convinced him that a new approach was essential. Consequently, he directed that, for the first time, all-out operations would continue through the summer. Further, it was pointless to waste energy on fruitless searches for such an elusive en-

emy; the primary objective henceforth would be not the Seminoles themselves, but their villages, crops and food supplies.

Despite the heat and the increased ravages of disease which it brought on, the troops carried out the new program vigorously. The Seminoles were taken by surprise. Unable to react as promptly as during the other three seasons of the year and with the supplies that were the source of their staying power being wiped out, they found themselves unable to go on. Coacoochee, one of the main holdouts, was seized with his band. Smaller groups began to turn themselves in. A few more fights occurred, but by 11 May 1842, the war was declared over.

The key: identifying the objective

In analyzing the seven-year campaign, the difficulties which stand out are those resulting from communications, logistics, disease and inability to locate the enemy. Modern techniques would of course minimize the first three of these problems. The difficulty of locating the enemy, however, together with the problems of terrain and climate, today will plague any counter-guerrilla force just as they did the troops during the Seminole War.

Certainly, the repeated defeats inflicted on the Indians throughout the war sapped their ability to go on fighting; but, because the Indians could only seldom be forced to stand and fight, the attempts to defeat them in battle were not conclusive. The effort to curtail movement, or to confine the Indians south of a line of demarcation, also failed to end the war. Success came only when efforts were aimed at an objective which would not only bring about the Indians' defeat but—unlike other approaches—was feasible of complete attainment. By identifying the goal correctly and making a virtue of necessity in using the climate to their advantage, the troops were able to bring to a rapid and successful finish a war which had dragged on inconclusively for years.

Naturally, it is never possible to apply historical experience literally. In a number of respects, also, in any counter-guerrilla campaign today, modern technical capabilities would have a significant influence on the manner in which objectives would be sought and courses of action carried out. Another major element in any such operations—which was entirely absent from the war in Florida—is the necessity to weigh political factors, particularly as they influence the local populace in deciding whether to remain neutral or to render active assistance to the guerrillas. At the same time, the fundamental *military* principles governing the choice of objectives, and the courses of action best calculated to achieve them, remain as valid as ever.



Bridge-building time is reduced by Army engineers in Europe by use of amphibious bridge units (ABU) that can be converted from

you cross the river

By Lt. Col. OAKES M. HAYDEN

EVEN though he can hurdle some obstacles through the aid of the airplane, the helicopter, and the parachute, today's ground soldier still faces the formidable problem of crossing water barriers. If you examine a 1:2,300,000 map of Central Europe, you will find that the 1,050 straight-line miles from Wiesbaden in Germany to

Smolensk (barely within the Soviet border) are crossed by 63 major water courses.

In ARMY for December 1956 General Clyde D. Eddleman indicated the framework within which river crossings must fit if they are to be effective: "In the field of tactical mobility, we are seeking ground and air mobility which will enable Army forces to converge rapidly at the focal point of the attack from dispersed formations; exploit the effects of atomic weapons to seize critical objectives or destroy enemy forces; then disperse rapidly to minimize our vulnerability to enemy counteraction."

If we are to meet the conditions of the atomic battlefield and the vital need for speed and mobility, we must re-evaluate our current concepts and procedures for crossing rivers. To be sure we're all speaking the same language, a few definitions are in order.

A *pass-through* is a crossing that can be conducted as a continuous operation; that is, from the assault to the crossing of heavy fire support and essential logistical elements. The follow-up must be continuous if the assault forces are to push forward and maintain the impetus of the attack.

A *crossing front* includes the entire breadth of

Doubling as flying cranes, helicopters are useful tools in lifting heavy bridge spans into place quickly





a land vehicle to a bridge section in 20 minutes. Here several sections are joined together in a crossing of the Rhine river

to get to the enemy

the river line in the zone of a unit (corps, division, battle group, battalion).

Crossing site means specific sites within the crossing front.

A *feint* is a show of force intended to deceive the enemy and conceal from him the location of our real crossing sites. It consists of a crossing by a small force, with a limited-objective type of mission.

A *demonstration* is a show of force on the near

bank intended to conceal from the enemy the location of our real crossing sites.

The means, not the end

In an operation that involves crossing a water barrier, the actual crossing is not the end sought, but the means. The immediate purpose remains unchanged: get the tactical troops and their supporting units across speedily, with the smallest loss of men and equipment.

Before discussing this new concept in crossing water obstacles, let us briefly review the steps currently employed.

A deliberate crossing is divided into four distinct phases: the *advance* to the river line, during which advancing elements deploy in readiness for the crossing; *assembly and preparation*, during which final plans are completed; the *assault*, which starts when units cross the line of departure; and finally, the *build-up*, or the advance on the far shore. This advance permits the eventual launching of rafts and the installation of heavy bridging. By its very nature, the operation is slow and precludes the rapid crossing by heavy support elements, particularly when you consider the time involved in erecting the type of bridging we now use.

We can no longer afford the time for massing troops and equipment in preparation for a crossing. We must look upon a river as we do any obstacle that impedes our advance. Through proper





New French-built mobile amphibious unit can be used as raft or bridge section



Experimental French ARCE units being used

use of equipment and sound training, and the development of SOPs for crossing and for traffic control, we must continue to cut the time with which water obstacles are crossed.

In general, the pass-through is a continuous crossing of assault and support units on a wide front that utilizes multiple crossing sites. Assault forces mounted in amphibious armored personnel carriers (APC) approach the river line in a column formation; they pass through a covering force, and disperse to predetermined swim sites and immediately begin crossing. Simultaneously with the swimming of the assault elements, mobile amphibious river crossing equipment, now being issued, is installed, and in a matter of minutes rafting of tank and direct support artillery units is begun. As the assault forces reach initial close-in objectives, they are rejoined by the heavy fire support elements.

When possible, crossings coincide with air-dropped or airdropped (preferably helicopter-borne) forces which arrive on far-shore objectives immediately after preparations by atomic or HE artillery.

Fire support is delivered by tube artillery, guided missiles and rockets from staggered points well to the rear so as to achieve fire superiority in the selected area.

To a great extent, success depends upon the speed with which assault elements reach the river line, disperse across a wide front, cross, and rapidly move to initial objectives and install rafts

for moving tank and artillery units. Bold, rapid movement enhances the possibility of success and minimizes our vulnerability to early counteraction by the enemy.

Simple plans, boldly conceived

Using general guidance, corps, division or task force prepares a tentative plan to direct subordinate commanders in the course they must pursue upon reaching the river line. These plans must be simple, flexible, and speedily prepared and disseminated. SOPs can be developed in advance for most of the necessary operations. Information concerning the river and the general characteristics of the terrain must be assembled as early as possible, preferably in the form of vertical and oblique aerial photographs.

Detailed plans developed by the commanders who are to make the crossing should include crossing sites, entrance and exit routes to crossing sites, dummy sites, fire support measures, assignment of units and priorities to each site, traffic control, and resupply.

Selection of the site becomes less difficult because of the cross-country mobility of the armored personnel carrier (APC) and the fact that usually it can enter the water from an unprepared site. However, thought must be given to exit on the far shore, since today's APC requires a gradually sloping exit. The amphibious river crossing equipment will require very little, if any, site preparation prior to launching and operation,



by U.S. Army in Germany. Three units, rapidly joined, form a Class 50 raft

Adjoining bridge sections are locked into place after skill and brawn warp them into position despite the current



but we must remember that a great many wheeled vehicles will be using the site. To insure flexibility and to reduce vulnerability to enemy action, several sites should be selected for each raft. In the pass-through, sites previously deemed unusable or potential should now be considered in view of the operational characteristics of ARCE (amphibious river crossing equipment).

When practicable, existing equipment such as foot bridges, assault boats, and infantry support rafts or bridges should be utilized to augment means available to the assault elements.

As in every action, the commander strives for secrecy and surprise. The time, as well as the place of crossing, depends on the need for concealment, the nature of the terrain on the far shore, obstacles, and enemy capabilities and dispositions. Where possible, crossing should be under cover of darkness, employing maximum infiltration and deceptive measures. The relative simplicity of the equipment makes it ideal for night operations.

Deception becomes increasingly important in the pass-through. Feints, demonstrations and smoke should be utilized in conjunction with all crossings. Imagination and ingenuity must be used to the extent that every means possible is employed to confuse the enemy and conceal from him the exact time and location of the crossing.

Emergence of the river master

Normally, the assault elements are controlled by the commander of the battle group or combat

command, under the over-all direction of the division or corps commander. Initially, traffic control should be charged to the commander of the assault forces, responsibility passing to the next higher headquarters as assault units clear the river. This control must be in the hands of an officer who is thoroughly familiar with the situation, who can change priorities, maintain dispersion so as to prevent columns massing at critical points, and divert units rapidly from one crossing site to another. This officer, who works directly under the commander, is called the river master. As personal representative of the commander, the river master should have the authority to maintain absolute and positive control of crossing sites as well as movement through them. He may be one of the commander's senior officers: engineer, transportation officer, or provost marshal, depending upon the size and type of the unit.

Responsibility for traffic control passes upward upon request of the subordinate commander. Each headquarters establishes control sufficient to include a traffic control center and traffic control points. Traffic control points are so located as to insure that traffic moves to crossing sites in accordance with the tactical plan. Dissemination of traffic control plans that include priorities of movement is of utmost importance. Because of the necessity for speed and dispersion, strict adherence to orders, careful and precise timing and communications are vital. Command and control become extremely difficult because of space re-



More pictures of engineers constructing the experimental French ARCE

quired for dispersion, traffic problems, and possible breakdowns in communications.

Control throughout the pass-through will depend upon adequate and efficient communications. In the past, it was normal to require the major unit in a river crossing to use the organic communications of the tactical unit so as to establish necessary control during the crossing. This includes the equipment of assault forces as well as that of supporting engineer units. Of course, this posed the immediate problem of the tactical force requiring full communications capability as it moved forward of the river line. Invariably this caused a temporary break in the vital control system, at least until the next unit moved forward and could reestablish communications.

To maintain the speed and impetus of the assaulting and follow-up elements, the river master must have at his call two independent systems of communications. The first, of course, is the tactical system which should be maintained as the normal tactical command communications net that is independent of the crossing. The second, a river-crossing net, should be provided by the support elements which are furnishing the means for the crossing. As we will see, this is in the organic equipment of the engineer amphibious river-crossing unit. This net becomes operational prior to H-hour and is utilized to move the equipment of the rafting sites. It continues to operate

until floating equipment is replaced by bridges. Radios mounted in each amphibious vehicle will afford a sufficiently flexible system of this type. The river master will control this net that is independent of the tactical communications.

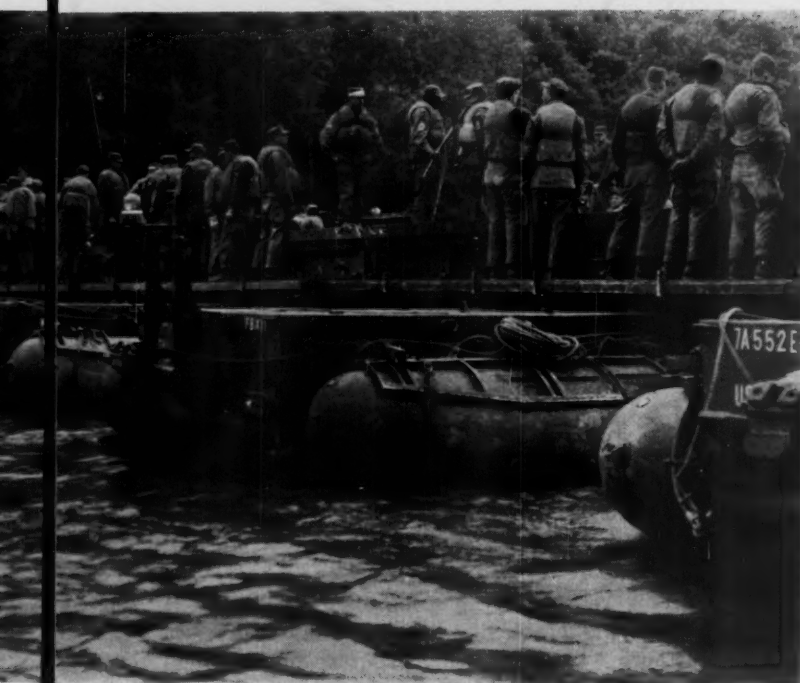
The organic combat engineer unit supporting the tactical forces should be included in the tactical communications system. As the units cross, regulating points, traffic control points, and holding and staging areas should be tied into the river-crossing net as well as into the tactical net.

Both systems are controlled and monitored by the river master. Unit SOPs must be so designed as to establish and outline responsibilities for communications during this critical phase. The actual communications utilized will depend upon the type of equipment being employed and the scope of the operation.

Organization and equipment

Under the pass-through concept, the combat engineer battalions supporting battle groups, combat commands or divisions will only hastily prepare the near and far shore sites to permit use of armored personnel carriers and the amphibious river crossing rafts. After completing this initial work, combat engineer units furnish normal combat support to the advancing elements.

The primary units of equipment required to support the rapid pass-through are the amphib-



Short gaps can be bridged quickly by 60-foot assault bridge carried by armored vehicle

ious APC, cargo helicopters, armored vehicle launched bridge (AVLB), and the mobile self-propelled amphibious river crossing equipment (ARCE). The M59 amphibious armored personnel carrier, or the new M113, will be used to cross assault elements to their initial or intermediate objectives. To furnish direct fire support, ARCE will be employed immediately behind the assault force. AVLBs and helicopter-lifted short bridge spans will be moved across as soon as practicable, so as to assist assault elements in rapidly pushing forward. Except for ARCE, the equipment we have mentioned is available within the current organization of the field army. This basic equipment, the ARCE, which is the primary means of moving the combat, combat support and logistical elements, will best be utilized if several company-size units are formed into a battalion or composite group. Those companies formed into a composite unit under a control headquarters should be organic to the field army under the direct command and supervision of one of its combat engineer groups. Each company should be able to provide five four-unit rafts (approximately 100-tons capacity) or about 575 feet of class 60 bridge. Considering the capability of the amphibious river crossing equipment, normally one company will be adequate for supporting an infantry division.

The French-designed ARCE is undergoing troop tests by engineer units of Seventh Army. As a

result of such tests, as we write, Department of the Army has authorized the additional procurement of a limited number of these units. This equipment has been used during two large exercises: Seventh Army's Sabre Hawk in 1959 and Wintershield in 1960. In both exercises, rafts were used with considerable success to cross landing elements of the assaulting forces.

The inherent mobility of ARCE assures rapid movement to a crossing site, crossing for the main battle tanks, and a volume of combat support traffic. The operation is then repeated at displaced or alternate sites. Standard U. S. bridging will replace the amphibious units when the tactical situation permits.

THE pass-through river-crossing operation will eliminate the former excessive time lag between initial assault and build-up phase. Early crossing by support elements allows the assault forces to push forward without hesitation and to maintain the impetus of its attack. Rapid, aggressive action by all units will reduce the enemy's capability of early counteraction, knock him off balance initially, and keep him staggering by a rapid and relentless advance. Unit SOPs for such operations will diminish the necessity for developing plans or detailed instructions at a time when speed, simplicity, and coordination are vital to the success of the operation.



MILITARY AUTOMATION

By RICHARD L. SHETLER

— a new dimension in defense planning

As in any trade, the defense business must study the activities of its competitors to come up with a practical appraisal of the potential and present capabilities of that competition. In the domestic markets we usually think of these competitive studies in the light where, for example, Macy studies Gimbel. In the defense business we have to study the Soviet Union and the Communist bloc. President Kennedy recently summed up the present activities of our Communist adversaries in these terms:

Their aggression is more often concealed than open. They have fired no missiles; and their troops are seldom seen. They send arms, agitators, aid, technicians and propaganda to every troubled area. But where fighting is required, it is usually done by others, by guerrillas striking at night, by assassins striking alone, assassins who have taken the lives of 4,000 civil officers in the last 12 months in Vietnam, by subversives and saboteurs and insurrectionists, who in some cases control whole areas inside of independent nations.

They possess a powerful intercontinental striking force, large forces for conventional war, a well-trained underground in nearly every country, the power to conscript talent and manpower for any purpose, the capacity for quick decisions, a closed society without dissent or free information, and long experience in the techniques of violence and subversion. They make the most of their scientific successes, their economic progress and their pose as a foe of colonialism and friend of popular revolution. They prey on unstable or unpopular governments, unsealed or unknown boundaries, unfilled hopes, convulsive change, massive poverty, illiteracy, unrest and frustration.

With these formidable weapons, the adversaries of freedom plan to consolidate their territory, to exploit, to control, and finally to destroy the hopes of the world's newest nations, and they have ambition to do it before the end of this decade. It is a contest of will and purpose as well as force and violence, a battle for minds and souls as well as lives and territory. In that contest we cannot stand aside.

In his report to the Congress, the President brought the problem into very clear focus: we are faced with the task of assuring our national survival. Since a large part of this task is assigned to the military-serving industries of the Nation, the management of these industries becomes concerned with economic-political matters which subtend the basic prosaic corporate considerations customarily faced by businessmen.

It is a practical and sobering thing now and then to stop and reflect on what is at stake if we do not expeditiously program our work so as to assure our national survival.

National survival is subject to four conditions making up an axis of military posture: total war, limited war, truce, and peace. Each in turn directs the nature of the military technology which will assure our survival or victory in any of these four conditions. A further breakdown shows us that each of these four postures can be subdivided into preemptive war, retaliatory war, limited war by major powers, limited war by minor powers, truce marked by revolutions and arms control and, finally, peace marked by disarmament and apathy.

A recent example of the Soviet's emphasis on limited war technology was exhibited at the Tushino air show in the Moscow suburbs. This flyover gave ample proof that the Soviets are spending money for manned supersonic aircraft that can support limited war missions. This is contrary to what some people have been claiming; that is, that the Russians were abandoning manned aircraft and putting all their chips on the missile race.

The significance of what was exhibited at the Tushino flyover certainly can't be ignored when studied in the light of the Berlin crisis. The USSR is ready to wage an effective limited war, and she has the hardware to do it. Furthermore, this

Tushino air show displays concrete evidence of still another more subtle Soviet strategy.

Cards in the hands of a double-dealer

A day before the flyover Khrushchev gave a speech in which he clearly pointed out that the leaders of the USSR were ready to play any hand they chose to deal in either the total war or limited war game. The long and the short of it is that if we are going to sit at the same table, we are going to be forced to maintain strong suits to play either of the two games Khrushchev chooses. Khrushchev's over-all strategy, of course, is to keep us off balance by one day exhibiting some new type of nuclear-carrying missile, and the next day showing us a unique potential he has for waging a more conventional conflict. The effect this has on our economy will be discussed later on.

A lesser, but still important, benefit the Soviets obtain from such displays as the Tushino flyover is the impact such exhibitions have on the minds of people in the underdeveloped countries.

Today the situation is, to say the least, grim. West Berlin is threatened by Communist attack. Communism has come to the Western Hemisphere by way of Cuba. Western Europe is endangered by the fact that the Western military alliance is in disagreement over arms policy and by the instability and weakness of some members. A large part of Laos is in the hands of the Communists. North Africa is open to their influence. South Vietnam is under heavy pressure from Communist guerrillas. South Korea has undergone economic disintegration. So-called "black Africa" is being penetrated by Communists, and the Middle East is ripe for their picking.

To refer back to the axis of military posture again, you can quickly note where the Soviet Union is placing its chips: in the limited war-truce areas. They see no sense at this particular time in resorting to a nuclear war that would endanger the homeland of communism, when they can accomplish world domination by throwing nationalist rebels into the breach to bring about the aims of the Communist Manifesto. Yet the greatest military technical efforts we have made are back in the preemptive—or preventive—war and retaliatory war areas of the total war rationale.

The enemy can afford greater losses

We have succeeded in bringing into being the ultimate weapon in the ICBM, a weapon that is so efficient that its indiscriminate use is impractical to advance *political* objectives. Once you have stocked your arsenal with nuclear weapons and their various modes of delivery, it would seem that you have temporarily, at least, discouraged any other power from risking their use. Our technology in this respect was very efficient.

You will note that the word "impractical" is qualified in describing the possible use of nuclear weapons. In *On Thernonuclear War* Herman Kahn presents a very convincing case to substantiate his premise that nuclear war is not *militarily* impractical. Kahn's idea is that the mass populations of the Communist bloc could absorb much greater losses than the free world and still come out the victor. His main theory can be summed up in this quotation:

"Insofar as the enemy is willing to gamble that the U. S. will not go to war because it lacks an adequate civil or air defense program, war is brought nearer. He is obviously more willing to gamble if the urban U. S., lacking preparations, is open to total annihilation. A parallel analysis holds for the conviction of the world, friends and enemies alike, that the U. S. would support her allies in a crisis."

We have tried diplomacy to stop limited war, and this hasn't worked. We went to war in Korea and stopped the aggression there, but how would we handle five or six Koreas all going on at the same time? Even if we commit our conventional forces to the field, we would eventually face disaster merely by the natural military law of attrition.

The solution rests in the realization that we must make conflicts in the limited war and revolutionary upheavals just as politically impractical to the Communists as we have made total war politically impractical. In other words, they must be forced to recognize that they will lose more than they can gain. They must recognize that every time they attack, they will be beaten.

Linking tactics and technology

In order to accomplish this, we will have to change our way of thinking about military technology. We have automated the farmer so that now one man can do the work formerly done by ten. We have automated the factory worker and tripled his output. Now we must automate the soldier so that he can hold a position against twenty guerrillas. This is where our engineers come onto this rather unpleasant scene.

As mentioned earlier, we have made nuclear war so devastating that it is impractical from a political standpoint to use these weapons for limited war. To give us a capability for total nuclear war we spent some 50 to 55 billion dollars from 1954 to 1961 and are currently expending at a rate of \$16 billion a year. The forecast for bringing about a limited war capability shows that from 1961 to 1966 we are going to spend the same sum of money. This forecast gives us a strong hint of the magnitude of the problem which our military-supporting industries will face. The preparation of a limited war potential will have twice the

rate of rise that we were geared to in order to prepare for total war. Our efforts from 1954 to 1961 were relatively leisurely, compared to what will be expected of us from 1961 to 1966. This effort has already been given added impetus by the Berlin crisis.

The Communists have laid their cards on the table, and we can see now what kind of game they are playing. From an economic standpoint, we are at war. Let's not blind ourselves to *that* fact simply because there are no soldiers currently fighting in the field. The various groups of loyal nationalists that are opposing the Communists must rely on us for strategic and logistical support.

Since the Communists have decided what kind of war they want to fight it then becomes merely a matter of matching our tactics with our technology.

In very simple terms the basis of Soviet field tactics can be characterized by what Liddell Hart calls fluidity of force. Harkening back to history, the concept of fluidity of force isn't anything new. George Washington employed this type of tactics. This means that you never stand and fight when you know you're so heavily outnumbered or outgunned that defeat is even a 50-50 chance. On the other hand, you never attack in force on a narrow front; rather your assault is by small, mobile units across a wide front. In our times, this front is the entire world. This is General Forrest's pat principle of getting there first with the most.

Readiness for tactical warfare

To date, even with the new strengthening of our forces due to the Berlin situation, we have done very little to link up many of the new technological accomplishments of the last ten years with the requirements of tactical or limited war. It would be impractical in the space of this article to spell out in specific hardware details just how we think this link-up can be accomplished. Such an attempt would be based on pure guessing and would have little or no basis in what is actually scheduled for the design boards.

It is possible, however, for us to outline the basic technological parameters within which this military automation will have to be carried out.

In assessing the present or near-future preparedness of the United States for tactical warfare, we note that:

(1) The Army has undergone substantial expedient force reduction and has not been able to completely modernize its weapons on funds allotted. It is also probable that the amount of air and sea lift available quite seriously limits Army mobility.

(2) As for the Air Force, in view of the emphasis in other areas, the Tactical Air Command

at this writing lacks the necessary operational resources, nor has it been provided with the funds required to effect such development; the Strategic Air Command has not been expected to prepare for this task, and probably should not be diverted from its main mission in any case; the Military Air Transport Service was equipped and deployed for peacetime logistics and pipeline operations, although it is now beginning to develop a capability to give substantial support to tactical operations.

(3) The Navy is perhaps best prepared, but is also heavily committed to the strategic offensive mission and related general war tasks; the Marine Corps is appropriately configured, but deemed to be too small a force to carry out the whole tactical task. It has not been given the charge or financial support to develop, plan and procure the systems that are needed.

Concept of functional requirements

In attempting to move from the sorts of general notions we have discussed to the kind of specific prognostication needed by the Defense Department as well as representatives of the defense industries, the concept of functional requirements has appeared to be the most usable avenue. Several sets of methods have been developed for application to the field of tactical warfare requirements and certain tentative generalizations are beginning to emerge.

First of all, there is clearly a set of significant areas of requirements and issues associated with tactical warfare which are functional in nature:

(1) In weaponry, the choice of type and size of warhead, and the range, mobility, and accuracy requirements for weapon systems must be related to the nature of the war and the operational constraints this imposes, and the concomittant nature of the target information that can be made available to the strike elements.

(2) In communications, command, and control we must achieve an appropriate flow of information through the total operating force and an appropriate design of the force to match the achievable realities of the information flow, including combat intelligence. Information should flow only to the level and only in such form that a decision-maker can in fact make timely and effective use of it. There must also be an appropriate recognition of the differences in command information requirements with various levels of conflict, the several plausible locales of wars, and the anticipated chronological development of each. Most particularly, there must be a recognition of the very high probability that the force in question will not be homogeneously American, and English-speaking. Like other tactical systems, tactical command and control must be designed

with the characteristics of our probable allies in mind.

(3) The question of timeliness is important in another context: in connection with the concept of mobility. The mobility requirements for limited war and tactical systems are both distinctive and peculiarly critical. Mobility in the battle zone, mobility in deployment, and the mobility requirements of the command and control and logistic support systems, all these have their peculiar significance and all must be considered.

(4) In logistics, the questions of supply availability, maintainability of systems and components, and the associated notion of reliability as part of the general criterion of operational availability, are of great importance. Here too, the ideas of timeliness and sufficiency are particularly appropriate.

Procurement for tactical warfare

Out of our work we are beginning to gain some specific insights on the probable nature of the national military requirements for tactical warfare at large and for the particular problems of limited war. For example, so far the bulk of our country's effort in tactical systems has been keyed to the NATO problem and the assumption that war will be fought in western Europe; or, at best, it has been keyed to this with the addition of the Japan-Korea-Okinawa-Taiwan area; and in both instances, to general war between the Communist bloc and the Free World. This will continue to be a consideration but it seems quite apparent that the problems of the SEATO and CENTO areas in Southeast Asia and the Middle East, and even of the emergent areas of Africa and Latin America, will become considerably more important in determining the requirements for tactical systems and tactical weapons.

It seems probable that there will be a change in the method of establishing the requirements, and perhaps even in the method of controlling research and development and procurements for tactical systems. Along with command and control, it seems fairly clear that the tactical mission area is one which inherently involves combined and joint operations; therefore, we find quite expectable the current efforts to put this kind of thing under joint control. It would not be surprising to see the research and development for such systems and weapons also pass under joint control. Certainly the influence of the individual armed services will lessen considerably.

There seems, also, a strong probability that many of these systems will have to be designed for operation by predominantly non-American forces, frequently composed of peoples considerably less technically advanced than Americans. Therefore, the problems of simplicity, ruggedness,

maintainability, and versatility will become especially significant ones in the design of equipments for tactical missions.

There are also very good reasons to suppose that some of the actual procurement may be done overseas, and perhaps not even with American funds. Some articles, of course, will continue to be procured in the United States. Perhaps a larger number will be designed here and produced in local areas, or in such "regional arsenal" regions as Japan. Here then, we will be forced into a position of pitting our vaunted American know-how against indigenous traditions and the evolving modern technology of other Free World areas. This presents both a challenge and an opportunity to our defense industries.

Our economy cannot continually shift

But it must be remembered that this must be done very carefully if we are not to fall into a well-laid Communist trap. That is to say, we cannot continually beat our plowshares into weapons and our weapons into plowshares. Our economy cannot continually shift from preparing for total war to preparing for total peace, or quasi-peace marked by limited war. The strain on the dollar created as we are forced back and forth across this axis of military posture is so severe that we cannot afford the crash programs that such major shifts entail.

In order to lighten this burden the military design engineer must recognize that in this day and age he designs neither for total war nor for limited war. He designs for both. An Atlas ICBM salvo launched against the Communist rebels in Laos would probably stop that war, but in the advancement of our political ideology it would accomplish two things and hence accomplish nothing: it would bring instant retaliation, and it would bring down the outraged wrath of the world.

We would have won the battle and failed the cause. What is required is the application of our total war technology to the requirements of limited war so as to stop such actions as the Laotian revolution within the accepted parameters of military action in such cases. Right now it appears that we have only two potentials: either annihilate our enemies or be beaten by them. We have no technological solution to defeating them in the concept of limited war.

Merely automating the production of so-called conventional weapons is no solution. The ball, as the saying goes, is back in industry's court. Technical military innovation as we must work with it is being compelled to adapt itself to guerrilla or limited war. That is the job of our engineers, and we realize that we have begun a countdown, the results of which can be only survival or oblivion.

THE NEW RED ELITE

Soviet combat commanders are dubious and political commissars are skeptical but the rising tide of influence on Soviet armed forces of military technicians and engineers is unmistakable
By ALBERT PARRY

YOU'LL live in a big city. They won't blow reveille and you'll go to the theaters, but the main thing is that you will become an engineer.

These wistful words of envy were spoken by his fellow officers to a Soviet lieutenant who was being detailed from his unit to study rocket engineering. They bade him farewell at the gates of a military post somewhere in the Russian sticks, and he and his young wife joyfully began their "road into the future"—as *Krasnaya Zvezda* (*Red Star*) for 20 June 1961 phrased it.

But this Red road into the future is not only Lieutenant Markov's path to a more expert knowledge of his rocket specialty. It is also his route into the very center of a brand-new class of Soviet élite.

In today's Soviet armed forces all manner of preferences go to those colonels, majors, captains, and even lieutenants who have had modern engineering training and are the much needed technicians of the armed forces. Naturally enough this means rocket and missile specialists first of all. The new development emerges crystal-clear to any careful reader of the Soviet military press these days, above all of *Red Star*, the daily newspaper of the USSR's Ministry of Defense.

What the Kremlin's press does not say but what we should logically surmise from its material on the subject is this eventuality: to prestige, higher salaries, and various perquisites for such military engineers, may in time be added political power or at least an attempt to gain such power. So far we detect no indications of such a phenomenon or process. But there are signs that rocket men, and to a lesser extent other engineers in the Soviet armed forces, do feel their own value and do demonstrate a certain degree of independence from both the non-engineering commanders and the political officers of their units.

Rocket units are the élite

The importance of the science of rockets and missiles in tomorrow's possible war has led the Communist Party and its Soviet government to separate the USSR's rocket troops from other services into a command all its own and to elevate it above the other branches. This was done in 1959

and officially revealed in early May 1960, right after the triumphant claim by the Kremlin that the U-2 of Francis Gary Powers was shot down by rocket men. Officially, the new rocket command is on an equal footing with the army, navy, and air force. In reality, in an Orwellian phrase, it is "more equal" than the others.

The privileged status of the military rocket command is evident from the frequent praise bestowed upon it by Premier Khrushchev, Marshal Rodion Malinovsky, and other leaders.

A graphic example was provided in Victor Ushakov's series of articles on rockets in *Izvestia* for 14-20 July 1960. Therein Major Michael Voronov, commander of the rocket installation credited with shooting down the U-2, was quoted as saying that "by its firing capacity, one rocket can now replace a whole artillery battalion of large-caliber guns serviced by nearly 600 men," whereas in the battery which allegedly shot down Powers "one rocket is managed by only three men." Net economy: 597 men, some of whom can be retrained for rockets, but others—probably most—are sent into civilian life.

As new rocket units are added to the standing Soviet force, young experts are graduated from special military schools and experienced specialists are not demobilized but stay and get promoted. Together these young men and their knowledgeable elders play an ever weightier role in the Soviet war machine if only because they now physically constitute a greater ratio within the smaller (though deadlier) military establishment.

We have some interesting figures, from the Soviets' own sources, that shed light on the increased ratio. The lead editorial in *Red Star* for 24 November 1960 pointed out that by January 1959 the proportion of engineers and technicians per capita of the command personnel in the Soviet armed forces was three times higher than such figures showed at the close of the Second World War. By November 1960 "the wide introduction of the most complex rocket technology increased this ratio yet higher." And on 21 May 1961, in a special article in the same newspaper, Marshal Sergei Biryuzov, chief of Russian's air-defense command

(by now heavily missile-equipped), proudly declared that in the troops under him the number of engineers and technicians exceeded that of officers who came from non-engineering schools and academies.

Neglect of the troops

But—and here is where we see possible beginnings of serious trouble for the Kremlin—in the very same exulting article Marshal Biryuzov expressed his worry that such engineers tended to keep themselves separate—nay, aloof—from their non-engineering fellow officers.

"It is no secret," he chided, "that among such military engineers, particularly among younger ones, there frequently appears a yearning to be appointed to posts involving purely technical functions." In fact, they try to secure posts where they would have a very few privates and sergeants under their immediate orders—the fewer, the better. "Filling such jobs," the Marshal complained, "they consider themselves 'exempt' from any participation whatever in looking after the personnel." Marshal Biryuzov denounced this "approach to the role of the military engineer" as entirely wrong and going counter to the basic spirit of the Soviet armed forces.

As for what their duties of "looking after the personnel" and "educating the personnel" should be, Marshal Biryuzov is quite emphatic: the Soviet military engineer should impart his vital knowledge to his subordinates. Equally important is his obligation to spread Communist propaganda among his soldiers.

Yet, too many Soviet military engineers, especially in the rocket and air-defense troops, want none of these two tasks. They find them irksome, distasteful and demeaning.

Some rocket officers flatly refuse to train their soldiers either technically or politically. This is bad, monstrously bad, said *Red Star* in shaking an admonitory editorial finger. Such officers are almost traitors as they "lock themselves into the shell of purely technical tasks" and decline to be any kind of teachers in the barracks and on the launching pads. In particular they shun the assignment "to develop the political awareness" of their subordinates; that is, to lecture to their men on the virtues of the Communist Party.

Disapprovingly they are quoted in the editorial as saying, "Our job is looking after the equipment, while the education and training of soldiers is the worry of other commanders."

But in some recently formed or reorganized units there are no commanders except themselves. More and more often a rocket engineer is his unit's top officer. As such he cannot leave the boring or messy Party assignment to others. He himself must keep incessantly his "active partici-

pation in the Party's political work" within his unit. He must improve his own Red orthodoxy no less than continue indoctrinating everyone else under him.

Technologists first, commanders next

Disregard of non-technical duties is not confined to the rocket and missile branch. Older services figure in the Soviet military press with similar denunciation of their "snobbish" officers. We may surmise that the new praise heaped by the Soviet leadership on the place of science and technology in modern warfare has confirmed among technicians in non-rocket troops the superior feeling they had harbored long before the Sputnik and Cosmonaut era blazed forth.

It appears that technicians in practically any branch of the Soviet military machine sneer at the simplest non-technical jobs they are ordered or expected to do. *Red Star* for 26 March 1961 reports that on one occasion, during the maneuvers of a tank detachment, a group of soldiers were on their way to a field kitchen. A colonel was shocked at the men's behavior: so unmilitary this seemed—they were walking, ambling, not marching; they were chatting and laughing. The colonel stopped their officer and demanded to know why he permitted such disorder. Their officer, in his turn, was surprised by the reprimand. "But I am not a commanding officer," he protested. "I am in charge of technology."

In its concerted campaign against this attitude, the Soviet military press attempts to show that such strict colonels are quite numerous, thank goodness. Recently *Red Star* printed a series of articles and letters from a variety of soldiers who apparently agree with the Party, who say they resent their colleagues' superiority complex as engineers—these men's "false pride" preventing them from doing propaganda or other non-technical work. On 19 May, in a lengthy summary of such letters, Captain M. Vasiliev was quoted in *Red Star*: "An engineer who does not busy himself with the upbringing and education of his subordinates is like a man who has plowed a field but does not want to seed it. Indeed, having collected during his academy years considerable knowledge, he is not using it to train his closest assistants—his soldiers and sergeants."

He was echoed by Lieutenant L. Shcherbakov, himself a senior technician, writing in the same symposium: "If an engineer knows his subordinates as specialists only, and does not study them off duty, this means he really knows nothing about them."

In the same summary of letters to the editor a major in the reserves who also described himself as a technician, hinted that stuck-up engineers were antipatriotic. He reminded his readers that

in the Soviet military and political system every officer "without exception" has a responsibility as a political trainer of his men. When any such officer "shirks this responsibility, he leaves behind him a breach in the foundation upon which the structure of high military readiness is being erected" by the Soviet command.

The trouble is in part "a vestige of those old days when there were few specialized officers in our troops," said a colonel joining in the chorus. In that bygone era there was little need for technical officers to do anything but consult. But "this outdated view of the engineer's role must be pulled out by its roots," and schools preparing military engineers must revamp their teaching methods, so that their graduates would not regard their tasks so "narrowly."

Red Star quite insistently points the accusing finger at the Soviet military engineering academies. Also in the 19 May issue N. Kovalenko, an engineer-captain of the Navy, quoted the commanding officer of a Soviet warship to the effect that one of the ship's young officers was "a good engineer, but could be a better lieutenant" than he so far turned out to be. The captain commented that by this remark the ship's commander "meant to say that his school had given this young officer good knowledge of his specialty but did not teach him how to be a good commander of men"—that is, to be a convinced Communist and to see to his subordinates' faithful communism as well.

"Snobs" must be becoming numerous

A definite effort is made by the Soviet propaganda headquarters to show that not all the military engineers in Russia are so narcissistic about their skills or so infuriatingly indifferent to Communism. Hence, their deliberate identification in print by several of the snobs' critics as "senior technician," "engineer-captain," and the like.

The propaganda office also sees to it that those criticized do not get much of a chance to reply to their deriders. The infrequency of such self-defense purports to demonstrate how few are the deviators from the Soviet norm. When the Soviet press does open its columns, rarely and briefly, to a military technician stating the case for his aloofness, the Party's purpose is also to set up one more convenient target for abuse. The subsequent outcries against the courageous engineer by far outrun, in printed length and loudness, the weak defense allowed him in the sacred columns.

Yet, whatever defense of aloofness is occasionally permitted makes telling logic. Thus, on 26 March 1961, one officer was permitted to say in *Red Star* that engineers such as himself dislike stepping outside their technical tasks because of the complexity of modern war technology—the

fact that it was growing increasingly vast and difficult to master, leaving time for nothing else. "The specialist's load is very heavy," Senior Lieutenant M. Lysenko wrote. If an engineer does not devote at least some of his limited spare time to learning new things in his field, "his work loses sense." Suppose (Lieutenant Lysenko continued), the engineer does "shift part of his time to training his men in non-technical matters, what then will be left for the engineer's own improvement?"

Lysenko rather agreed that the Soviet military engineer should indeed give some of his precious hours to the technical instruction of his subordinates. But, in almost the same breath, he proposed that the military engineer "be unburdened from secondary matters"—that is, from the necessity of spending his time and effort in Communist indoctrination of subordinates.

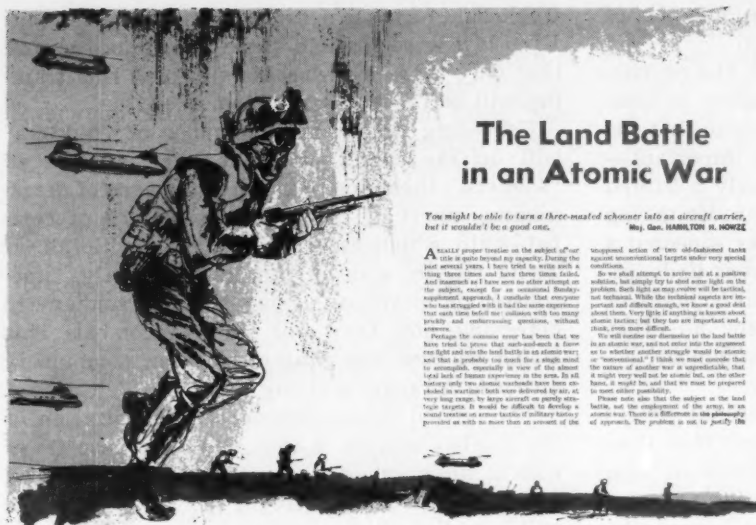
Everything points to the correctness of the view that as rocket officers and other technicians become more numerous and more important in the Soviet armed forces as cogs in that war machine they certainly carry more and more weight in the general Red scheme of things.

The very phenomenon of the increased frequency, in the Soviet military press, of material directly addressed to the engineers, particularly rocket engineers, is evidence enough. The uneasy, chiding tone aimed at the offending "few snobs" is a refrain that singularly contrasts with the constant praise of the technical troops as a whole. The offending "snobs" must be becoming so numerous as to constitute a rule rather than an exception. Else there would not be so many articles and letters full of irate disapproval of them.

The Party needs these warrior-technicians, yet it must keep its stern, watchful eye upon them. It does not want this new contingent of wizards to be so full of the sense of their own importance as to forget their first and utmost duty—their political allegiance—aye, subservience—to the Communist Party.

But these technical men know just how to save their own "line." One such specialist, a certain Sergei Sazonov, in charge of a military warehouse, was exposed in *Red Star* of 24 June 1961, as laying down his clever policy: "Make a pretense of unswervingly coordinating all your measures and plans with the secretary of the Party organization, and then do everything your own way." He thus wrote, while on a leave, to his assistant substituting for him during the vacation.

Thousands of other officer-engineers and officer-technicians, in rocket troops especially, and in other Soviet military services as well, act on this policy and teach their subordinates and colleagues to do likewise.



The Land Battle in an Atomic War

You might be able to turn a three-masted schooner into an aircraft carrier, but it wouldn't be a good one.

Wm. Gen. HAMILTON H. HOWZE

A **REALLY** proper treatise on the subject of our title is quite beyond my capacity. During the past several years I have tried to write such a thing three times and have three times failed. And whenever I have come to other subjects on the subject, except for an occasional Sunday-morning approach, I conclude that everyone who has struggled with it had the same experience that each time failed me: confusion with too many pretty and confusing questions, without answers.

Perhaps the common error has been that we have tried to prove that notwithstanding a future fight and win the land battle in an atomic war; and that is probably too much for a single mind to accomplish, especially in view of the almost total lack of human experience in the area. In all history only two atomic warheads have been released in warfare: both were delivered by air, at very long range; by large aircraft on purely strategic targets. It would be difficult to develop a sound tactical or armor tactics if military history presented us with no more than an account of the

suggested action of two old-fashioned tanks against conventional targets under very special conditions.

So we shall attempt to arrive not at a positive solution, but simply try to shed some light on the problem. Such light as may come will be tactical, not technical. While the technical aspects are important and difficult enough, we know a good deal about them. Very little if anything is known about atomic tactics, but they too are important, and I think, even more difficult.

We will examine our discussion of the land battle in an atomic war, and not enter into the question as to whether another struggle would be atomic or "conventional." I think we must conclude that the nature of another war is unpredictable; that it might very well not be atomic but, on the other hand, it might be, and that we must be prepared to meet either possibility.

Please note also that the subject in the land battle, not the employment of the atom as an atomic war. There is a difference in the philosophy of approach. The problem is not to justify the

The provocative examination of "The Land Battle in an Atomic War" by Lt. Gen. Hamilton H. Howze in our July issue stimulated three readers to respond. Here are their comments.

The Need Is for Sheer Superiority of Numbers and Armament

By Capt. THOMAS J. KERVER

"**A** **REALLY** proper treatise on the subject of our title is quite beyond my capacity." Thus General Howze begins his article on the nuclear battle of the future in the July issue.

As General Howze points out, this is indeed a field in which none of us can be considered an expert. This leaves all doors open to comment and criticism, particularly in the light of some of the highly unconventional propositions he advances.

Many of General Howze's suggestions seem to have loopholes or drawbacks, particularly to those of us who advocate sheer superiority of numbers and armament as one of the most vitally important principles of warfare. Indeed, history has proved this an excellent principle; for while we may cite many examples of decisive engagements wherein superiority of force was defeated by sounder tactics or cleverness, the historical truth remains that the vast majority of recorded battles were won by the side that had more and better equipped forces.

In spite of this, General Howze suggests that three "combat sections" of about 50 men each may be able to do the job of today's battle group. Continuing with this organizational hypothesis, he further reasons that we will have a total of perhaps 15 or 20 of these combat sections in a division. Numerically, this results in a maximum of only 1,000 combat troops per division!

Next, considering General Howze's contention that, in spite of the smaller number of combat troops, there will be little or no total manpower saving, we must presume that the numerical strength of his proposed division will be near or equal to that of today's division.

Since, under his proposal, artillery and armor support elements will not change greatly, I presume that the majority of his division's strength will be acting with the "air cavalry" and the logistical support elements. Keep this presumption in mind, for I shall return to it.

Fighters or soldiers "present for duty"

First, let's examine the basic fighting element, the combat section. General Howze appears to have based the idea for this section on two conclusions: the fact that only a small percentage of combat troops actually fight while the rest are merely wasted men who bear weapons without using them; and the possibilities of an enemy nuclear strike require that as few men as possible be concentrated in one spot at the same time.

Conceding the truth of the contention that only a comparative handful do all the fighting, there are still other problems to be explored in this regard. All the instances to which General Howze referred, in which a small percentage of the total force accomplished a given mission, had one thing in common which is not true of the proposed combat section: in spite of the small number of

"fighters," there was still a large number of "soldiers" present for the battle.

I am not expert enough to go into the psychological implications of the axiom "safety in numbers," but it seems reasonable to contend that the morale of the "fighters" and—more important—their courage, have always been greatly bolstered by the sight of so many of their comrades taking part in the battle. Even if they never squeezed a trigger, these others who were present undoubtedly furnished an incalculable impetus to many of the "fighters" who otherwise—if for no other reason than the fear of being outnumbered—might never have reacted so bravely.

Then, too, who can begin to calculate the effects on an enemy of great numbers of men? How does it affect a soldier when he sees hordes of men charging toward him or defending the objective of his attack? How, on the other hand, would he react to the sight of 50 men or fewer, skilled though they may be?

To continue our rhetorical questions, in how many of those battles whose final objectives were seized by a handful of men did only the same handful begin that attack? Perhaps those who failed to reach the final objective simply lacked proper skills and training. Perhaps they were killed or wounded during the action. Perhaps it was a combination of all these factors—and more—which resulted in only a few reaching the objective. Can we safely say that *only* the "fighters" reach the final objective?

We must presume from General Howze's assumptions that in past battles the casualties were incurred by those who did not fire their weapons. Certainly we cannot presume that in a combat section composed of only trained fighters there will be no casualties. Yet the loss of one fighter in a small combat section would be a far greater disaster in General Howze's organization than the loss of several infantrymen in our currently organized company.

Perhaps the greatest problem facing the organization of the combat section is in choosing these fighters. I question the quickly glossed over assumption that aptitude and reaction tests, coupled with successful airborne or ranger training, will suffice to identify these people. I cannot help feeling that this is one of those shady areas which General Howze confesses he is not sold on.

Choosing the fighters

Are we to assume that every soldier who satisfactorily completes airborne training is a fighter without qualification? Must we send every volunteer and draftee and RFA through airborne training to determine his combat fitness? Should anyone who cannot qualify for or pass this training automatically be classed as a soldier who

won't fight? This is neither practical nor possible. Even if it were possible, there is nothing to prove that only those who successfully pass this training will be the fighters of tomorrow.

Conceding that a small number of "fighters" will do the same job as a large number of "soldiers," there is still no certain means of determining—short of the actual experience of combat—into which category a person will fall. It would require a deep, penetrating, costly, time-consuming psychoanalysis of many soldiers to determine how they will react to combat. This would be even less practicable than compulsory airborne or ranger training.

The second reason behind the organization of the combat section is that we would lose fewer men in the event of a nuclear strike. However, if such a strike does destroy a combat section, we will have lost all the fighting power equivalent to one-third of a battle group. So, while indeed we may have saved on casualties (the conservation of human life is never a minor consideration), we have nevertheless lost the same percentage of our division's firepower as we would have had we two infantry companies or one company and a part of the combat support company. And we have further exposed ourselves to destruction by a warhead of much lower yield than would be required to eliminate the companies. Thus the enemy would have left at his disposal a greater number of shorter-range nuclear weapons with which he could destroy our combat section.

So much for the combat section. Let us return to the basic organization and numerical strength of the division of the future. As we have seen, since little or no saving in manpower would occur in the division, we must assume that a great many troops (perhaps as many as 8,000?) will be assigned to the air cavalry and to logistical support.

Two bearers for one fighter

Indeed, General Howze tells us that for every combat section of 50 men we will have a logistical section of 100 to support it. This section, presumably, will feed, clothe, shelter, supply, and generally take care of the combat section so that it can be left free to concentrate on its primary mission of fighting. Of course, the obvious inference here is that two other men will be required to keep each fighter going.

This tends to appear heavily burdensome on the rapid-moving, aggressive combat section, whose load we are trying to lighten. For, as each section moves upon its objective, it will have to concern itself also with protecting a friendly force twice its size which is tagging closely behind. Or are we to presume that suddenly the logistical support force of 100 will turn into "fighters"? But are not these the men whom we have previously deter-

mined will not use their weapons in combat?

Truly, we know that the secondary mission of many of our forces is to fight as infantry whenever required. But if we demand that these "non-fighters" in the logistical support sections act as infantry to protect themselves (as will surely happen), haven't we defeated the original purpose of the combat section? In any event, a logistical force twice the size of the unit it is supporting can become quite an encumbrance in battle.

Even with the combat sections and their double-sized logistical support force, we have still accounted for only a maximum of 3,000 men. Therefore we must presume that the greatest augmentation of numbers to keep the proposed division at or near the strength of the current one will be in the addition of the air cavalry. Here indeed General Howze has painted a rosy picture which, if it could be implemented, would not only solve a great many problems of the nuclear battlefield but would also overcome many of the current difficulties that face the tacticians who are trying to sail the three-masted schooner of conventional warfare.

Since the situation is a hypothetical one, we can overlook what would undoubtedly be the staggering cost of augmenting a division with the many aircraft and trained pilots which General Howze would require.

The role of air cavalry

Presuming that the air cavalry does exist in our proposed division in the numbers and quality General Howze desires, we have by no means solved all our problems. The twofold primary mission of air cavalry would seem to be to provide limited tactical air support to the combat action, and to furnish logistical support and transportation to the combat elements. These tasks, of course, would be in addition to the already current aerial missions (security, target acquisition, and so on) of the division's organic aircraft.

The greatest difficulty which seems to arise now is one already foreseen and then disregarded by General Howze: the loss of aircraft. Indeed, if we have a great many aircraft, then at first glance the loss of one or even of several should not be alarming. But if we experience a continuing loss of one or several aircraft, it must of necessity be considered more important than the loss of an equal number of tanks or armored personnel carriers. The average soldier, with a minimum of training, can learn to drive a tank or APC satisfactorily. But this, at least now, is not true with pilots. To "drive" rotary or fixed-wing aircraft we school only officers and warrant officers. They undergo a long, rigorous course of training. They must meet high physical standards.

These requirements, not necessary in the case

of the driver of a tank or APC, greatly limit the number and type of men who can be aviators. Of course, you can always train outstanding soldiers who meet the qualifications, but how high a percentage of these people would qualify? Even if the percentage were high, it would still take a long time to train them properly.

The loss of a plane or a helicopter might not be critical if such craft are being mass-produced in sufficient numbers. However, the mounting loss of specialist aviators, for whom replacements could become increasingly difficult to obtain, might result in the aircraft of the air cavalry being left useless on the ground. They would be unable to fulfill their vitally important missions because of a lack of pilots.

Nor can we even presume that a majority of these slow, small aircraft will elude enemy defenders. True, low-flying aircraft, hidden in clutter or defilade, can thumb their noses at radars, but radars and other types of air-defense warning systems are being constantly improved to overcome these deficiencies. As we refine and improve our means of air defense, we must also presume that any potential enemy is doing the same. Since Korea, air defense has taken fantastic strides in coping with small, low-flying aircraft. On the other hand, these aircraft, regardless of design, must necessarily remain basically the same if they are to perform the close combat mission required of air cavalry. So, while we still have the L-19 and the H-13 or their equivalents, we now have the Hawk instead of the quad .50 and the Nike instead of the 120mm gun.

Our discussion has concerned itself with only the organization of the units on the nuclear battlefield. I have refrained from mentioning or discussing tactics based on this organization because so far my background and schooling in this field have not been sufficient for me to sail the three-masted schooner of conventional warfare, let alone even try to navigate General Howze's aircraft carrier.

Undoubtedly, many problems would arise in a consideration of the very basic tactics of the proposed force. I feel certain General Howze is probably more aware of these problems than anyone else. That is why this is in no way intended as a criticism of his ideas; rather, what I have said is offered as a commentary on some of the shady areas to which he refers. True, I have said little if anything of a constructive nature. I am merely trying to show that the aircraft carrier is hardly yet ready for launching, let alone for sailing.

The problems are many and the ramifications are tremendous, but at least General Howze has opened the door for us so that we might—if we dare—enter and begin groping our way around in this unknown world of nuclear warfare.

ROAD Can Be Geared to the Needs of the Nuclear Battlefield

By Maj. ROBERT T. WINFREE, JR.

WE ARE on the threshold of another (the ROAD) reorganization that affects our infantry, airborne and armor divisions, and gives us a new "mechanized" division. This concept utilizes many of the principles of the current and World War II armor divisions—mainly the brigade (combat command) to which the maneuver elements—infantry, tank, or mechanized battalions—are attached as required. There is no need to discuss this reorganization in detail, for by now the reader knows about it from "The Structure of the New Army Divisions," by Lieutenant Colonel William H. Zierdt, Jr., in ARMY for July 1961. I will discuss what I consider its main advantages: mobility, flexibility, firepower, and functionalized logistical support.

I was motivated by what Major General (now Lieutenant General) Hamilton H. Howze had to say in "The Land Battle in an Atomic War," in the same issue. His analysis and concept of what the "land battle" will be like are both sound and forward-looking. I propose to show that in our new structure we have the flexible base upon which to build a division that can fight a nuclear land battle.

If we face the dilemma of whether to organize so as to fight primarily a nuclear war or a so-called conventional war, then so does our most likely enemy. We have all read and discussed the tactics of a nuclear conflict and a nuclear-free war, now that we know the Soviets also have a formidable capability. While we cannot afford two sets of forces—one to fight the nuclear war, the other for brush-fire and conventional wars—we can and must plan and practice modifications that become necessary if we are to succeed in either eventuality.

For example, if we are confronted with a nuclear war, careful advance planning would facilitate the streamlining of our divisions as envisioned in General Howze's "50-man combat sections." We can do this by reducing each infantry company to approximately one third its ROAD strength. The remaining troops could then be used to form additional units or to beef up the somewhat lean support command structure and improve its ability to defend itself.

To illustrate, let us see what we might do with a new division of mixed battalions in the ratio of six infantry, two mechanized infantry and two tank battalions.

We could form two infantry brigades of three

battalions each and a balanced armor brigade, consisting of two mechanized infantry and two tank battalions. The battalions within the infantry brigades would be organized into light companies (General Howze's 50-man teams). These companies would move on foot, backed up by helicopter lift. The armor brigade would be the division's striking force. It too would be light (in numbers of men and in equipment), the mechanized battalions being similar to the infantry battalions already mentioned and the tank battalions becoming companies. Let's pause here to emphasize that while this contemplated "lightness" is not desirable, it is probably necessary if these units are to live and be resupplied on the nuclear battlefield.

Now for the division artillery. It can be reorganized to the extent necessary to support these 50-man teams, but we must not cut our artillery. Basically we will still require one direct support battalion for each brigade. Two of the 105 howitzer battalions should be primarily helicopter transportable. One of these battalions and the general support artillery should remain self-propelled. These light artillery battalions could be employed as three-gun platoons.

About this time we begin to wonder where all this air mobility (helicopter transport) is coming from. The air-mobile company of the new aviation battalion can transport one infantry or mechanized company of approximately 150 men. This would lift three light companies of our "nuclear" division. One solution to additional support is in the transportation helicopter companies usually found in the field army's organization. However, under our new concept these will also be required for logistical support. A pool of helicopters attached to the division appears to be the answer. Also, in the ROAD concept we have removed the personnel carriers from the division "pool" in the transportation battalion and returned them to the mechanized units. To add flexibility to the purely infantry battalion, it also appears desirable to pool a certain number of armored personnel carriers.

We have not yet mentioned some of the other main elements of the division which would be affected by this streamlining. The engineer battalion could be made smaller because of more reliance on helicopter lift and less on ground transport. The reconnaissance battalion should be reduced and converted to air cavalry.

I would like to reaffirm General Howze's statement that we have overemphasized "foxhole

strength." Of course, our logistical support can be streamlined since it will have less to support; however, the task may be much more difficult. Both combat support units and logistical units must be large enough to carry on their primary functions while being able to defend themselves against all types of attack.

In general this "nuclear" division will be smaller, more air-mobile, tough, and flexible. The numbers saved by its smaller size can add depth to the battlefield and adequately protect the support command. The class I (rations) supply problem can be eased by using new combat types. Class III (petroleum, oil, lubricants) resupply is somewhat simpler due to less ground transportation. The difficulties of resupplying aviation gasoline will increase; however, these supplies need not be moved as far forward as other class III in support of ground transport. While ammunition resupply will continue to be a big problem, the use of nuclear warheads instead

of the heavier conventional rounds will lessen it somewhat. We must make every artillery round count. Improved survey techniques, better target acquisition equipment and electronic computers will help us do it.

We must not forget that our division must have an air-defense capability. Certainly our air superiority at the end of World War II and in Korea has not helped keep us aware of this need. Perhaps the new Redeye and Mauler will be the solution. If they are not, other air defense from corps must be made organic or be attached. Without adequate air defense a division cannot win on the nuclear battlefield—or on the conventional battlefield, for that matter.

What I have written here is not intended as a final or over-all solution to organization for land combat in a nuclear war. Rather, I have attempted to show that our new structure offers a flexible base from which such a division can be organized as required.

Identifying the Needed Skills of Atomic and Non-atomic Forces

By Col. WILLIAM M. CONNOR

GENERAL Howze's "The Land Battle in an Atomic War," posed many immediate problems, and by its method of inquiry provided a process whereby others may contribute to solutions. The points he raised dovetailed remarkably, if not always exactly, with my own line of thought.

First, we'll look a little more closely at the environment of the land battle in an atomic war, with particular attention to the extent we may expect atomic weapons to be used against a division's area. To do so we must revert to the basic point: until such a war is joined, atomic combat will gain nothing for an aggressor that he could not achieve much easier through other means. Therefore, such a war is not a logical development characterized by methodically phased campaigns that seek limited objectives. Once begun, it can have as its goal only the most rapid and favorable possible termination of a direful situation. For an aggressor this would obviously mean the swiftest possible campaign to overrun as much territory as he considers necessary to present the western world with an accomplished deed that would seal off local resistance and discourage any attempt at liberation.

The aggressor's pattern for using atomic weapons, if undertaken, therefore could be expected to be intensive and against targets from the forward edge of the battle area to the deepest possible

rear areas, so as to insure maximum disruption as well as damage. Similarly, the momentum of his attack would have to be maintained at a constantly rapid pace: first to seize timely advantage of disruption in the rear area; secondly in order to achieve his goals before all his delivery systems can be located and knocked out. When we thus speak of "delivery systems" we must visualize not only rocket-launching sites and airbases themselves, but the whole supply systems for weapons and non-nuclear components as well as the maze of personnel and logistical details on which these systems depend.

The defender would certainly gear his response to the tempo of the attack. He would aim at destroying the enemy's complex delivery capability and at stopping in its tracks the whole momentum of the enemy's major offensives. This would include all stages of his support and buildup, and especially at sealing off with atomics as much of the immediate battle area as is threatened by his spearhead forces.

In these circumstances both sides would be delivering at a maximum rate until one reached a temporary breaking point which would signal the end of that campaign—at least until that side could regroup its resources under the continuing fire of its adversary. Therefore, while the figure of six or eight atomic weapons on a division's front during the course of a day, as visualized by General Howze, is still a formidable as well as a likely one, any such arbitrary figure

would probably represent a transition from a much higher to a much lower number rather than a sustained rate.

During any such intensive period—and after it—the type of highly mobile forces that General Howze suggests would be invaluable. Certainly the philosophy behind their operations is sound, under the conditions he presents. They can and must do jobs which normal major non-atomic units could not do. Our current plans for their detailed organization and operations must be kept flexible to insure that they stay abreast of the successive types of atomic forces which the aggressor can be expected to try.

However, if these purely atomically tailored forces could be related to elements of the non-atomic forces which it is increasingly vital for us to maintain, then perhaps we can overcome the dilemma posed by General Howze. Obviously, we cannot afford to be caught with only atomic forces in a nuclear-free war, or only non-atomic forces in a theater suddenly transformed into a nuclear area.

Therefore, it is very much worth our while to see if other factors cannot help us reconcile the composition of atomic and non-atomic forces.

One great help may spring from the fact that in nuclear-free combat, trading a certain amount of space for time usually has been an initial element of the strategic defense. The lighter units are disposed forward so they can identify enemy units and delay them. Increasingly heavy units are brought in to break the momentum of the enemy's drive and to divert it into areas favorable to us. At the proper time our heaviest elements stop his advance and counterattack him. Our heaviest units are usually disposed at a considerable distance to the rear so as to maintain a choice of areas from which we can launch an attack with maximum effect.

General Howze points out that our atomic defense would start with a very light type of force out in front. This force would carry out its missions according to the flexible techniques he suggests. The thought inevitably follows that perhaps these lighter atomic forces can be brought more closely into line with our normal reconnaissance and screening forces, so that we would not have to envision two drastically different forces for the forward area. I trust my approach does not add too many masts to our aircraft carrier.

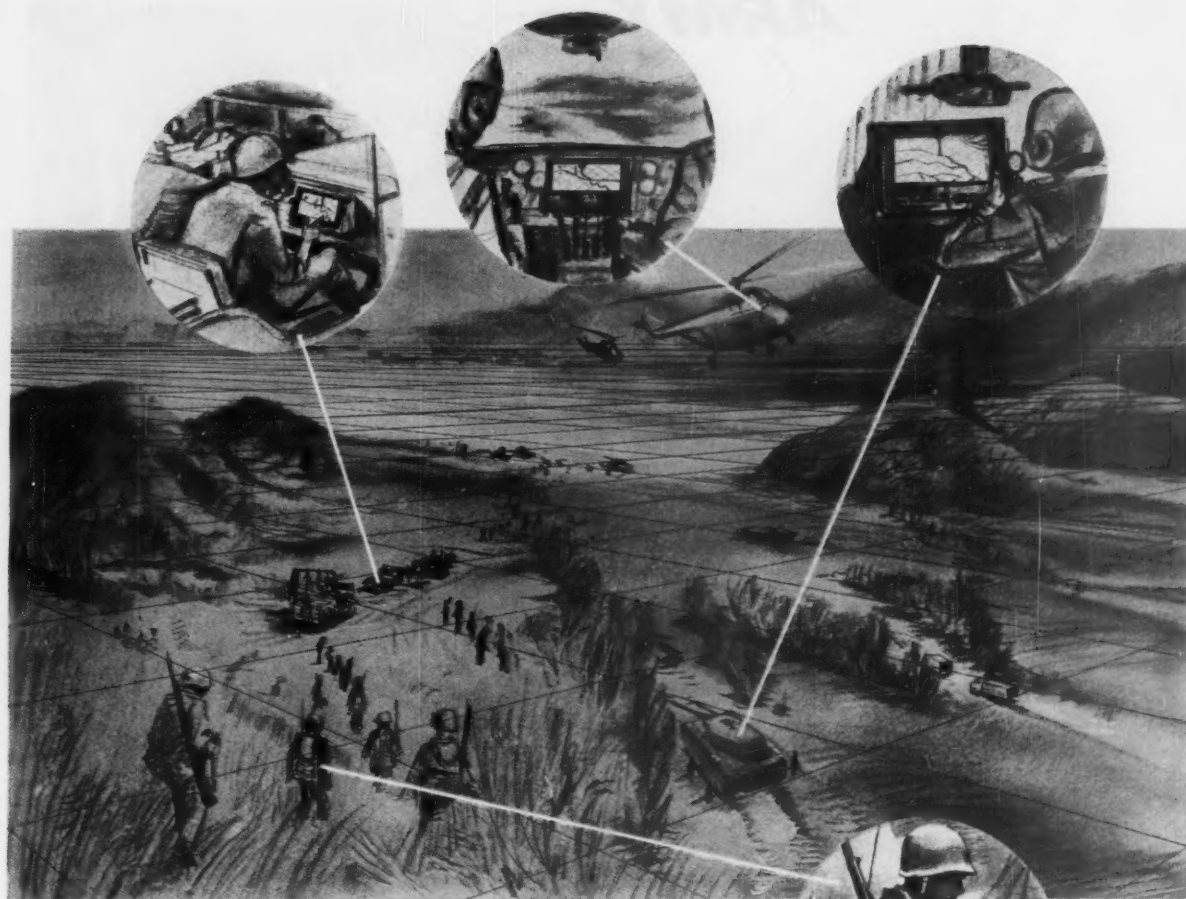
Another consideration that strengthens this approach to the problem is that in atomic warfare a strategic trading of space for time may no longer be valid. The small units General Howze describes do not rely for their strength on their own muscles, but on their ability to call down a deadly curtain of fire from the rear. Of

course, they must distinguish between the enemy's purely local patrol actions and his offensive actions which are spearheads for hostile columns that intend to penetrate deeply. However, there is every indication that our battlefield surveillance methods are rapidly making this possible. Small patrol actions can be handled without resort to atomics by the forward combat sections, assisted by other mobile combat sections. Large-scale action must be met by calling for fire, including nuclear warheads, from the rear.

Thus it would appear that even a strategic penetration could be met by a devastating attack against its support, screening off the troops that have penetrated, and cleaning these up by methods we have discussed. There is no question in either event of withdrawing to the shelter of the support provided by stronger forces, because in nuclear war it is precisely those "stronger forces" that would be most vulnerable.

In fact, there would have to be strong forces in the rear, even though they be widely dispersed. These strong forces would constitute a basis for continually providing needed reinforcements and replacements to the forward elements. They would provide the firepower needed to keep the forward battle going and to beat down enemy aircraft and delivery systems. They would keep operative the lines of communication to the front, whether by cross-country vehicle or helicopter. They would provide the necessary supply and maintenance support, and would perform all the functions of rear-area security and damage control.

Hence, it would appear that the crux of our problem of a dual-capacity atomic and non-atomic force lies in identifying more closely the mixture of skills and units we need in each. We must determine the maximum degree to which these needs can be met through cross-assignment and cross-training, with the minimum addition of units or soldiers specialized in only one type of combat. We are immeasurably assisted in this by the fact—which we have already examined—that in both instances our lighter elements are forward and the heavier elements are to the rear. Certainly this is no easy or pat solution; but in view of the danger which General Howze points out—of trying to operate the carrier needed for one environment with sails that might be desirable for another type of craft—I feel that the goal is worth the great efforts involved. In assimilating the many new capabilities being developed for nuclear-free war, our ultimate goal should be the hardest-hitting force we can design, in the confidence that a technically feasible and strategically sound regrouping can give it the characteristics it needs for its best utilization in atomic war.



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ARMY— cerebrations

THREE ACT PLAY. *Don't believe what you read on the cover of the phone directory.*

By Capt. PIERCE E. MOUNTS

Act I. *We're listening to First Speaker, somewhere in Korea.*

"Every time I pick up a telephone directory these days I read the same warning: DO NOT DISCUSS CLASSIFIED INFORMATION OVER THE TELEPHONE. IT IS NOT SECURE!

"That's ridiculous! For years I've been having all sorts of discussions over the phone—some classified, some not—and I've been able to keep it under the table simply by using my head. If you're smart enough you can use pig Latin, double-talk, abbreviations, and things like that, to get across what you mean. And nobody's the wiser.

"Right now I've got a hot one on my hands involving an armor unit moving up to support a coming local action. The brass are worried about proper timing because they don't want the tanks coming up early so as to tip the Reds off to the attack.

"It seems G2 has gotten the idea someone has leaked information about the thing anyway, so they've classified hell out of the time the tanks are to marry up with the infantry. Now you realize that if we try to keep that classification we'd have to send couriers all over the front before night. They're always overclassifying everything anyhow.

"No sweat, though. I'll just get on the horn with the two outfits concerned and let them know the time. Boy, the way I'll hash it up, nobody in the world can figure out what we're talking about. I'll call regimental 3 right now."

"Listen to how it's done:

"Pepperbox 3, this is Bluebottle 3. About this thing we've got going tonight—you know. Well, the earliest will be 30 minutes after Broken Bulb [Broken Bulb: heh, heh, that's our code for sunset. Get it? Clever!] Remember now, if the Goies [opposite of Commies. How about *that*? Neat, eh?] get an inkling that you're going to have crabs [crabs—you know, hard-shelled. Ha! Oh, brother!] they might try to get to you first.

"See: that's all there is to it. They get the word without all the fuss."

Act II. *We're listening to Second and Third Speakers. They are in a darkened bunker, and wear padded suits. It is 1 minute 35 seconds after First Speaker finished.*

"Comrade! The last piece of the puzzle!"

"Ah, so we've heard from Bluebottle again?"

"Yes, comrade. The earliest their armor can join will be 30 minutes after sunset. Then it comes."

"Good! Give the order."

Act III. *A few days later. We're back to First Speaker, now somewhere in the enemy's rear area.*

"Say—uh, guard! How about some water with this bread, huh? [Funny thing. They clobbered our people before the tanks even got there. Somebody on their side must have guessed pretty close.]"

QUESTION: Why won't people read and heed what's printed on the covers of official telephone directories?

ANSWER: They do read it, but they're too *smart* to heed it!

HAZARDOUS DUTY PAY. *Is it fair and does it do what it's supposed to do?*

By Lt. Col. HOWARD W. RICHARDS

We in the armed forces resent criticism by outsiders, particularly when it concerns service policy, fringe benefits, retirement rights, and pay scales. This resentment often takes the form of reflex-type action, no serious thought being given to the validity of the criticism.

I am not at all sure we always have done everything we can to police our own house and keep our ducks in line.

What about incentive pay for hazardous duty, a subject that occasionally comes under fire?

In wartime how do we explain to the doughboy or

marine that mentally and physically his front-line duty is not as hazardous as that of the pilot or paratrooper, particularly when much of their service does not involve sustained combat with the enemy? Don't the casualty lists mock any explanation we might attempt? Can anyone state for sure that casualty statistics of our next war will not follow the same pattern? Why haven't we standardized the incentive pay for hazardous duty in wartime? Better yet, why don't we eliminate it completely in keeping with our commander in chief's concept of "ask not what your country can do for you—ask what you can do for your



The 11th Armored Division Drives Through Germany: Men of the 11th Armored Division dash through the smoke-filled streets of Wernberg, Germany, in the final thrusts against the Nazis. The Rhine and Ruhr River action climaxed our large scale drives in the Reich. April 22, 1945.

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The traditions of serving freedom wherever it is threatened, and of rolling back the tide of tyranny wherever duty calls, have made the American flag and the American serviceman the world's most respected symbols of liberty. From the Pirates of Tripoli to the Communists of Korea, American servicemen have fought and stopped the tyrants.

We of Federal Services, our founders who were of the services and many of our staff who bore the arms of the country, hold in high regard these finest traditions of service. We aspire to serve in the same high manner—those who serve the nation.



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country"? Military service was once considered an honor and a privilege. Shouldn't this be particularly true in times of national peril?

It appears to me that in peacetime we may be just as far out in left field, or even more so. Take the case of the parachute-qualified assigned to a headquarters or a staff job who is required to "jump" occasionally. Basis for the requirement is established in regulations, and frequently it is most liberally interpreted. This is evidenced by the fact that to draw incentive pay, all too often these people jump only once every three months. Should this soldier draw the same incentive pay as the one serving with an airborne unit, whose normal duty requires him to jump much more often? Is there equal hazard? We have a parallel condition in the pilot assigned to a headquarters or in a staff position who is required to fly occasionally. Frequently these pilots log the minimum time required to earn flight pay. Is the degree of hazard the same as that of the pilot in a unit where flying is normal to a day's work? Yet the incentive pay is the same.

Few will dispute the logic of maintaining proficiency in a specialty acquired through long training hours and great expense. Few will deny that occasionally there are positions outside of specialized units that do

require infrequent performance of hazardous duty. Wouldn't it be better to develop a sliding pay scale, or to simplify matters by arbitrarily cutting incentive pay by half for those performing the duty when not serving in a specialized unit? Can we justify paying at a uniform rate for hazards which exist in such widely varying degrees?

I believe that in the field of incentive pay, we can put our house in better order by eliminating it during wartime, and by reducing by 50 per cent incentive pay for hazardous duty when it is not performed in a specialized unit where it is required as part of the normal day's work.

I think these actions will improve morale service-wide and cut operating expenses. In these times of tight budgets, we can ill afford to pay for more than service rendered. Would these proposals affect operating efficiency? Hardly! If nothing more were achieved, money would be made available that would permit more people to engage in hazardous duty and thus increase over-all proficiency and our capability for rapid expansion during emergency. Battle will continue to be the payoff, and we will still have with us people who are attracted by the glamor of specialized units—incentive pay or no!

AMBASSADORS ALL. *American soldiers are the greatest single influence for maintaining our prestige.*

By Col. GEORGE R. SEDBERRY, JR.

The U. S. Government has a most potent tool for elevating the prestige of our great country in the eyes of our friends abroad: the U. S. Army. On the other hand, the sharpest edge of this tool can be used to cut down the respect people of other lands have for the United States and its citizens.

Because a few can destroy the good impression left by so many, this important task requires the never-ceasing efforts of all hands. Here is a short, true story that seems proof enough that our people can gain respect for our country and for themselves.

On 28 June 1950, dawn was breaking over the north banks of the Han River, just south of Seoul. Enemy artillery was registering on the river from observation posts on North Mountain. Premature destruction of the Han River bridges (the official history says, by the South Korean Army) during the early morning hours, had blocked escape routes to the south. This trapped a major portion of the army, north and west of the river. Yet, north of Seoul, enemy pressure was forcing the South Korean units to withdraw toward the river.

Withdrawing, and fighting along with the South Koreans, was a small band of American soldiers—the Korean Military Advisory Group. At KMAC headquarters the only facility for communicating with the outside world was a vehicle-mounted AM radio. This vehicle competed with tens of thousands of Korean refugees struggling to get across the river ahead of the Communist tide.

While the Americans were searching for a way to get their communications vehicle across the river, an ROK jeep crawled along the north bank of the river, heading into Seoul. An officer in the KMAC group recognized a friend, a Korean Army colonel, riding in

the jeep. He hailed him to stop and explained the situation. The Korean colonel was asked for his assistance in getting the communications equipment across the river. He agreed to help. Finally, an improvised raft was obtained and the vehicle was crossed safely. The Korean officer, now that he was on the south bank, decided to accompany the band of Americans farther south.

Several months later, and many miles to the south, in Taegu, the two friends met again. During the course of their conversation, the subject of the evacuation on 28 June came up. The Korean colonel commented that on that day he faced a most difficult decision. When he stopped and was asked for aid, he was en route to pick up his wife and children and move them south so as to escape Communist capture and sure torture or death. Hearing this story for the first time, the American officer realized that the colonel's decision to help the KMAC group rather than rescue his family must have indeed been a tremendously agonizing one. The manifestation of respect and admiration for Americans seems almost more than could be expected.

After the Inchon landing, it was only a few days until Seoul, the South Korean capital, was free of Communists and once again under control of ROK authorities.

The American advisor returned to Seoul. He had not for a moment forgotten the family of the Korean colonel and the possible consequences of their being left with the North Koreans. Prior to the outbreak of hostilities, the two families had exchanged social visits and knew each other well.

He contacted the colonel and asked about his family. The colonel had no definite news then but prom-



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ised to relay information as he obtained it in Seoul. Not too much time elapsed before news arrived: the family was safe and in good health.

Delighted, the advisor requested permission to call on the family as soon as arrangements could be made. The colonel stalled. Weeks passed, and to each additional request a new excuse was offered. Finally, wife and children, looking neat and pretty as ever, presented themselves in the advisor's office in Seoul.

Later, when asked why he had not allowed the American to see his family for over a month after Seoul had been taken, the Korean colonel replied that it was his wife who had insisted on the delay. During the period of North Korean occupation of Seoul, the wife and children had hidden in the mountains,

having for nourishment only roots, berries and other meager foods that could be obtained from the countryside. In her effort to keep the children alive, the mother had lost much weight. She insisted, therefore, that her husband allow her to regain the weight before she would see American friends.

Is this not a rather conclusive indication of the esteem in which the United States was held here? The Army had been a good ambassador!

Americans can gain the respect of our foreign friends. American prestige can be kept high throughout the world. You, American soldier, are the greatest single influence; of this there can be no doubt. The question is, will your influence be for better or for worse? You must decide!

HOW DO YOU RATE? *Research reveals that it's a myth that an officer will inflate the ratings of friends*

By Maj. ROBERT J. PETERSEN

With the possible exception of people in the topmost strata of our defense team, where active research on leader assessment is being done, we in the military still cling to many outmoded biases and opinions regarding this area of human behavior. Also, despite continuing civilian research reports on the futility of inventorying personal characteristics in identifying and predicting leadership, we still identify a leader in terms of personality traits such as alertness, bearing, initiative, and the like.

Let's see if there is any basis for two common conceptions about leadership behavior. For example, are there really two separate and broad groups of people—leaders and led? If so, how do we delineate these groups and separately identify them? Secondly, how and to what extent is friendship related to leadership? Is a rating officer inclined to inflate his rating as a result of a conscious or unconscious feeling of friendship toward the rated officer that is reciprocated by him? In answering, we will base our conclusions upon research by recognized civilian investigators in this field as well as some personal research stemming from analysis of peer rating questionnaires executed by infantrymen of an airborne division. This research was done in conjunction with fulfillment of the requirements for a graduate degree.

We will narrow our field a bit and discuss only a small segment of this vast area of leadership: specifically, peer ratings, more familiarly known as "buddy ratings." The need for better standards against which to test predictions of leadership potential led armed forces personnel research agencies to turn for ratings to buddies, peers, or co-workers rather than evaluation by superiors. It has been repeatedly demonstrated that a contemporary predicts leadership potential far more validly than does an older superior. I do not even remotely suggest that we use this form of procedure to supplement the efficiency report, but these evaluations provide an excellent research vehicle to demonstrate the point.

Normally, this type of questionnaire is most often employed among officer candidates and ROTC and USMA cadets. Each member of the military group

lists each other member in the order he considers him the best leader, the most mature, or similar attributes. Many critics of this form of rating have termed them "buddy ratings," intimating that they are heavily influenced by friendship rather than by true leadership assessment. This may be of real concern to any rater, not to mention the rated. For example, do our ratings of efficiency and aptitude for the service reflect only a measure of the rating officer's friendship for the rated? Happily we can say such an assumption is unwarranted. Analysis of the rating forms in my research shows that in these measurement scales, the feeling of friendship did not adversely influence the bias factor. The rater is most apt to rate according to the choice he is asked to make; that is, if he is asked to nominate those he feels display the best leadership potential, he does just that. Apparently the rater is only mildly inclined to cloud his ratings by friendship considerations, to the exclusion of his assessment of the over-all leadership ability of the rated person.

Some previous studies on leadership similarly support this finding. Thus it is just a myth that raters assess leadership ability solely on the basis of friendship. If the rated person does not possess those qualities the rater considers essential to the exercise of good leadership, mere friendship will not automatically "endow" the rated with a leader's mantle.

Another fallacy is that in any group there are persons who occupy opposite ends of what we might term a "leader-follower pole." The assumption goes like this. Those persons rated low on potential for leadership constitute a possible "follower" group only. In this view, leadership and followership qualities are diametric: he isn't a leader, therefore, he becomes a good follower. This is simply not true.

Analysis of the questionnaires reveals that the behavioral traits of leader and led were intimately rated. Thus, anyone not rated a leader doesn't by that fact alone become only a follower. Evidently, we desire much of the same behavioral qualities in both leaders and followers. Thus, the second myth: leaders and followers are two completely separate entities; in

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reality they tend to be merely one. Whatever else we may term the typical deadbeat in our outfit, "follower" is not an appropriate description.

I have attempted to show that, apparently, two common misconceptions of leadership behavior have little foundation in fact. Peer rating is not influenced by "popularity" aspects, nor is the typical deadbeat best characterized by the term "follower." In evaluat-

ing a leader we must somehow come to realize that we are not alone in our search for the relevant variables that describe, predict, or assess leadership. Many civilian professional organizations also find themselves in this predicament. By adopting their more rigorous investigative techniques and directing them toward isolating these variables, we can do the military profession much more good in this critical area.

REWARD INTEREST IN SHOOTING. *Greater encouragement of shooting may reduce training time for recruits*

By CWO JOHN P. CONLON

During the earlier days of our nation, our enemies quite often remarked that we were indifferent soldiers but damned good bushwhackers in the first part of a war, and after battle experience, good soldiers. The frontier character of the land meant that practically all males able to pick up a musket could fire it capably. In the older parts of the U. S., military smoothbores were popular then because they could be used with shot on game, and with ball on Indians. On the frontier, rifles predominated. The combination made for people who knew how to shoot, and needed only basic military drill.

The frontier is gone, but it left behind it many legends, many of which center around proficiency with firearms. Today quite a few folk claim that Americans are natural-born shots. Sadly, it ain't so.

In practically every part of the U. S. you can find nearly every type and caliber of rifle ever made: war souvenirs, collectors' pieces, game-getters, and just plain ornaments over the fireplace. Quite a few of their owners would fire them if they had a place to do it. In built-up areas the discharge of firearms, however well controlled, is frowned on. If one man is firing at targets with proper backstop and another is doing 80 in a defective car, odds are that when the cops arrive the driver gets second priority.

Target shooting draws only a small number of the potential firers. It discourages quite a few when they learn how much gear they have to buy, and the character of the scores they have to make to be even bum marksmen. So they resort to bowling, or some other sport.

In the U. S. there is a lot of interest in weapons, if only someone could find a way to bring it out. The National Rifle Association and the Director of Civilian Marksmanship have tried a lot, with sales of old arms and ammunition, and civilian shooting programs. Army-trained shooters generally forget what they learned when they go back home. The hunters usually fire enough to zero on and then go forth for deer, moose, or Farmer Brown's mule.

First, can rifle practice with hunting weapons be subsidized, and officially recognized? This would mean that in addition to our military calibers, others would have to be bought, such as 30-30, .250 Savage, .303 British, and many other sizes. A course suited to the highly accurate .250-3000 might flunk all the lads with saddle carbines, for one. A course for the old 30-30 might leave the highpower fans cold. Could we work them *all* in? Something like Trainfire has been done in the Olympics and in international shoots, except

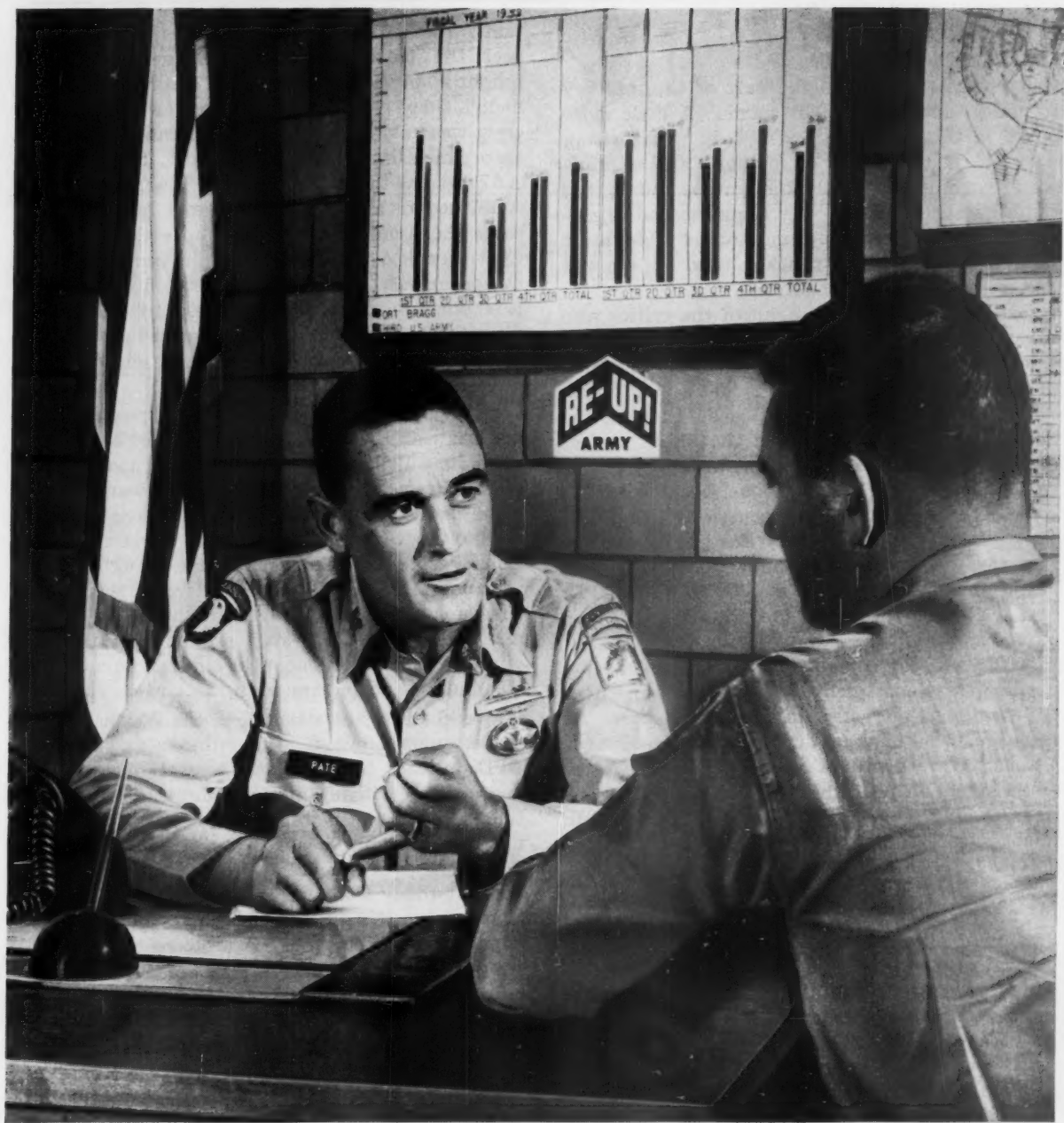
that they call it the "Running Deer." Shots are at a passing target at 100 meters. Then there are the ski-and-shoot events so popular in Scandinavian lands.

Next, could the good shots get some sort of official recognition for their work? The man who comes home from Perry with a hatful of medals gets less notice than the local butcher's softball team. Maybe good shooting could be used to take off a few months from the Reserve liability of the younger men.

Lastly, could we work this into national defense? A mob of people armed with enthusiasm and odd assortments of weapons is the last thing any general wants to see. State defense forces that replace the local National Guard unit when called up are armed with the best obsolete caliber .30s on hand, if they have them. The assorted types could be used in irregular light infantry formations set up in time of peace to work with the various weekend Special Forces units. For local maneuvers in peacetime, they could fill out the ranks to simulate guerrilla operations against conventional units. In wartime, they could do the same as local security forces, and if SF men are rotated home for rest and retraining, they could take up the same cadre job once more. We can expect our opposition to harass us in every possible way, and a few people in position are worth a battalion that is 500 miles away. Comes another fuss, we will have our hands full getting mobilized and off. A little thought and ground work now might be highly useful later.

A hundred years ago next July, the state of Ohio was threatened by a large Rebel force under Kirby Smith, accompanied by John Morgan. Most of the state troops were with Buell's army, leaving little but a few town Volunteer company-sized units. The Governor called out all able-bodied men to muster at Cincinnati with their own arms and ammunition, where Lew Wallace assembled 20 scratch regiments together and fortified the place. The threat passed, and only a small group at Augusta had to fight—but the rest were ready. As a military measure, the squirrel hunter's call passed into history. There is the precedent.

Perhaps such ideas are foolish, but we may need everything we've got. Greater encouragement of shooting may reduce training time for recruits in all services, encourage possession and use of high-power arms, and give us a pool able to serve as local militia backstop in time of trouble. After all, think of the huge masses we may one day have to argue with! The good little force is OK, but what if it meets up with a good big force?



Your leadership counts when a soldier needs counseling

Of course, your job is leading—not wet-nursing. But a good leader is genuinely interested in his men—knows that personal problems can take a man's mind off his job. So when a man under your command starts to produce below par, find out why. Try to understand his

problem—and try to help him. *Taking a personal interest in your men* is one secret of successful leadership—one proven means of motivating the men under you to do their best. And since a leader is judged by the morale and performance of his men...

you have a personal stake in leadership

TO COMMAND THE BEST. KEEP THE BEST • U. S. ARMY

Bring Back OPD?

(Continued from page 22)

was a greater effort on the part of the military to understand the "civilian mind." A little more effort in this direction might reap a surprising harvest. If the minds of civilians and military were examined in depth it might be found that the differences were largely semantic and organizational. Philosophic discussion of this must necessarily be left to another time and to the better qualified.)

But to get back to the point of the critics who say the D/A General Staff today is glacial in action and sometimes dinosaurian in its thinking processes, it is only fair to ask what they propose.

Not surprisingly most critics go back to the Second World War to find the near perfect organization for the Army General Staff. "It was wonderful," a now senior colonel breathed rhapsodically during a recent discussion of the subject. "I came into G1 from Europe right after the war and when I had an action paper all I had to do to get it rolling was to go up to OPD, find the right officer, get his initials, and I was off to the races."

"OPD" was of course the Operations Division of the War Department General Staff—in effect the wartime Chief of Staff's command post. As it burgeoned, along with Army Service Forces (ASF), Army Ground Forces (AGF), and Army Air Forces (AAF), the other divisions of the General Staff, specifically G1 and G4, declined in importance and activity; G2, as always, was a special case. It has been said that OPD had become a miniature general staff by war's end.

Undeniably, the system worked. The General Staff was responsive and could and did work fast because OPD was designed to promote action and get results. OPD was aided and abetted by the aggressive super-commands, especially ASF and AAF; AGF, less aggressive in grasping for power and domain, was nevertheless competent and dependable in its field. More importantly OPD was understood and supported by the Chief of Staff (who fathered it) and by a Secretary of War (and by Mr. Patterson, the Under Secretary) who understood war and the men in uniform who necessarily had to wage it. OPD, whether viewed as a command post or as a super-staff, was fast, effective and efficient.

Before we ask whether it would work today, we should ask why it was ever given up if it was so good. The answer to that seems clear. The piping days of peace were ahead and everyone's thoughts turned back to what used to be and began the retreat to that previously prepared and comfortable position as fast as possible (ac-

tually the old days and the old system hadn't been that good, but in 1945-46 men who had fought a long and hard war had a right to dream, hadn't they?). Another reason was that a new crew was taking over and it naturally turned to an organization it understood. ASF disappeared; AAF became the independent U. S. Air Force, and AGF, sedate and solid, moved out of town, became the Army Field Forces and eventually the Continental Army Command. In hindsight the disappearance of ASF was significant. This rambunctious command had ridden herd on as diversified a group of military specialties as has ever been rounded up and when it disappeared OPD lost its strongest trail boss.

As you know, the piping days of peace didn't materialize. But it wasn't war either, or wasn't until June 1950 and even then official conceit had it that it was a conflict and not a war. There have been some 15 years of this strange neither-war-nor-peace condition that the world calls the Cold War and it looks, verily, that it might go on for another 15 or 115. And so it would seem past time for the Army to get its house in order and evolve a general staff organization that is effective, efficient, economical (in its true military meaning)—and in tune with the powers that be.

Would an organization along the World War II model, embracing a streamlined, fast-moving OPD, manned by the best officers D/A can find, and coupled with an organization that would return some of the better features of the ASF set up, fit the requirements? Many people say yes. Some critics are more cautious. An important element today that was missing during the war, they say, is the question of where the money is coming from. This was no problem to the wartime OPD mover and shaker. Financing was easy. If he was satisfied that the proposed course was meaningful and necessary the go ahead followed. But today's mover and shaker finds an inhibiting hand on his shoulder. "The program may be good and necessary," says the not disembodied hand, "but do you have the money for it? Where's the appropriation and where's the DOD comptroller's authorization to spend the appropriation if it exists?" That, in itself, says the doubting critic, is enough to slow up an OPD until it wouldn't look much better than the system you have now. And, he will add, the staff can move fast today if the proposal is clear cut, urgent and funded.

"You're just putting difficulties in the way," replies the proponent of change. "Give us a streamlined OPD with authority to act and it will solve the problem of cranking in the money element. Let's get with it."—J.B.S.

ARMY

irons in the fire

NEUTRON BOMB: PRO AND CON

The technology, tactics and politics of the neutron bomb are "hot" subjects today, but most solid knowledge of it is shrouded in secrecy

By J. S. BUTZ, JR.

A fundamentally new type of nuclear weapon, the neutron bomb, has been the object of considerable concern during recent months in Washington, by military men, scientists and political leaders. Most of the discussion has been in private but the essential points of the arguments, both for and against the new weapon, have crept into public print and open meetings.

The concept of the neutron bomb is quite clear. Its purpose would be to kill human beings with a shower of neutrons that would not damage property or physical installations. In the past many scientists have expressed doubt that it would be possible to create a nuclear explosion which would not release part of its energy in a destructive blast and heat wave. More than half of the energy of fission and fusion bombs takes the form of heat and shock or blast waves.

The development job on the neutron bomb, therefore, is to lengthen the time of energy release from a nuclear explosion. In this way it is conceivable that the overwhelming heat pulse would not be created and great pressure would not build up to form a shock wave. The major energy release of this "lengthened nuclear reaction would be in the form of neutrons and gamma rays. In a sense this bomb's method of doing damage would resemble that of a power-producing reactor not covered by heavy shielding. An unshielded reactor operating at a

high-power level would have the same effect as the neutron bomb, except that the bomb's life and radiation production would be short.

TACTICAL ADVANTAGES

The neutron bomb has been envisioned as tactically useful on the battlefield. The neutron shower would penetrate even the heaviest tank armor and irradiate the crew. Effective radius of the bomb would be a maximum of a mile or two, according to most estimates. Probably it would be detonated in the air because the blast and heat effects could never be completely eliminated. This would prevent a small area of blast damage surrounding a surface burst. The brief neutron shower would affect only living tissue which is very sensitive to radiation. Even though neutrons will penetrate thick layers of all materials except those containing large amounts of hydrogen, such as water, it takes long periods of irradiation to damage them.

Not all experts see great tactical advantages in the mass use of the neutron bomb. Dr. David R. Inglis of the Atomic Energy Commission's Argonne National Laboratory has commented that "It is of dubious military value because many of its victims on the battlefield will be [near the outer limits of the bomb's effectiveness and only slightly irradiated, but] condemned to die of radiation sickness on following days and can afford to be very brave in the meantime."

The feasibility of the neutron bomb is not doubted by many. Senator Thomas J. Dodd, Democrat of Connecticut, has stated flatly that, "I doubt there is a single nuclear physicist of repute who would challenge the neutron bomb from the

standpoint of scientific feasibility." Other members of Congress, such as Representative Chet Holifield of California and Senator Henry M. Jackson of Washington, have also talked of weapons as "revolutionary as the H-bomb" that might be developed through further tests. These gentlemen never made it clear whether they were discussing the neutron bomb or some other device. However, most nuclear experts, in their few unclassified discussions of military devices, have left one extremely clear impression about the future of nuclear weapons. The H-bomb is no more the ultimate weapon today than the A-bomb was 10 years ago. Improvements are bound to come. Nuclear technology is growing at an ever-increasing rate, a feature it shares with all other modern technologies.

NO DEVELOPMENT WITHOUT TESTS

Some of the improvements will be fundamental giant steps forward, but most will be simply an inching process to cheaper, lighter, better ways of doing the old jobs. Both types of improvements are important and neither can be made without constant work and experimentation. This is the reason many physicists favor a resumption of U. S. nuclear testing. A neutron bomb, or any other basically new weapon, certainly cannot be developed without testing.

On the strictly technical side many argue that the neutron bomb is not really needed because the H-bomb provides us with both an adequate deterrent and adequate military power if we ever need to use it. Therefore, this argument concludes, the neutron bomb could never be decisive and is not worth developing. This same line of thinking was used to argue against the development of the H-bomb.

The argument for proceeding with the neutron bomb and advancing our nuclear science is probably best given in the statement by Dr. Hugh L. Dryden, Deputy Administrator of the National Aeronautics and Space Administration, when he explained why we must send men into space as far as the moon and farther. "I have talked to many Germans who have said 'Our country used to be a great industrial nation. We have lost

IRONS IN THE FIRE

many years. Space technology is something we cannot stay out of because if you are going to be a leading industrial nation, you have to work at the frontiers of science and technology." Dr. Dryden went on to say that he agreed with the Germans and that, "any country which wants to be among the leading powers in science and technology can just not ignore the field where the frontiers are."

POLITICAL EFFECTS

The political consequences of a test resumption have been well discussed and the U. S. will certainly be widely condemned if it follows this course. The other alternative facing the President is that the Russians might eventually demonstrate a neutron bomb or other advanced device. Even though the device might not be more destructive than those now available its novelty or terror potential could have two effects on world politics. First, much of the world might believe that the Russians had taken a lead in technology, and move toward the winners. Secondly, if the public believed that the Russian weapon was decisive, even when it wasn't, this could lead to a more dangerous reaction.

All reports to date indicate that the new series of Russian nuclear tests, beginning last September, involve conventional devices. No monitors in the U. S. or in other Western nations have raised the suggestion that the Soviets have a breakthrough in their hand. In fact, many authorities agreed with the pundit Walter Lippmann when he wrote, "The recent tests are an admission by the Soviet Union that they are far behind us."

There is some evidence to indicate that the Soviets neither have a breakthrough nor are catching up, but really are inching forward to lighter nuclear ordnance. If one gives any credence to the Russian boast that they have a 100-megaton warhead which they can send to the U. S. in a rocket, then they apparently have taken the lead in building light warheads. This assumption is made by dividing the bomb yield into the heaviest weight

that the Soviets have put into orbit—about 15,000 pounds. From this it seems that the Russian warheads weigh about 150 pounds per megaton, including reentry heat shields, structure and fuzing.

OUR CURRENT CAPABILITY

Current U. S. capability can be roughly calculated from open source material. Newspaper accounts have persistently placed U.S. ICBM warheads at eight megatons. According to Congressional testimony the Mercury capsule weighs over 2,000 pounds and the Atlas ICBM has to go full bore to send it into orbit. This would mean that the most optimistic figure of excellence which could be assigned to U. S. warheads is about 250 pounds per megaton.

This could be a low figure because the information assigned to the international aviation record body, the Federation Aeronautique Internationale indicates that the Atlas payload is nearly 4,000 pounds, which is the weight of the Mercury capsule and its escape rocket tower. This would make the U. S. warheads weight about 500 pounds per megaton.

Obviously, this is a very rough comparison; but it is certainly conceivable.

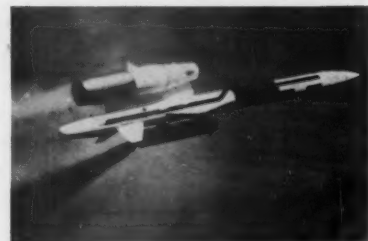
Early in November, President Kennedy, the man with final responsibility over U. S. nuclear testing, stated his thinking on the subject: "Well, I have stated that I felt it incumbent upon us to maintain our lead. We have not concluded as yet our analysis of Soviet tests, and if we felt that our present position in this very vital area had been endangered by Soviet tests, then we would have to take action to protect our security. So I also said that we would not test for political or psychological reasons, unless we feel it militarily necessary, and in the meanwhile, there is a long time gap, we have ordered preparations to be made.

"The Soviet Union prepared to test while we were at the table negotiating with them. If they fooled us once it is their fault, and if they fool us twice it is our fault."

Target Missile Scores Success

Capable of operating at both high and low altitudes, the Army's Redhead and Roadrunner (NA273) target missile has been successfully fired on a low-level mission at White Sands Missile Range.

To be used as a target for both



Blasting off from the Army's standard Little John launcher is the new Redhead and Roadrunner (NA273) target missile for use with Hawk and Hercules air-defense missiles.

the Hawk and Hercules missiles, the missile is only one foot in diameter and 19 feet long. It will operate at subsonic and supersonic speeds at altitudes from 300 to 60,000 feet.

The NA273 is launched by a 6,000-pound thrust underslung booster rocket which falls off a few seconds after launch. The ram-jet engine then takes over.

Prime contractor for developing the missile is North American Aviation.

Heavy Assault 'Copter

Sikorsky Aircraft announces that it has in the "hardware stage" a heavy assault transport helicopter capable of lifting four tons with maximum payload of up to nine tons for short ranges.

Power plant will be off-the-shelf turbo-shaft engines. It will have a six-bladed main rotor, tail rotor and transmission systems now in production for the twin-turbine powered S64 Skycrane.

The machine will have these additional features: low-drag fuselage, watertight hull for emergency flotation, rear loading cabin, hydraulically operated ramp, retractable tricycle landing gear, compatibility, a high-speed, heavy duty cargo handling system, and an automatic external cargo pick-up probe that doesn't need the help of men on the ground.

ARMY

books

DEFENSE SET-UP IN OUR TIME

ORGANIZING FOR DEFENSE. Paul Y. Hammond. Princeton University Press. 403 Pages; Index; \$7.95.

Reviewed by

LT. COL. DONALD S. BUSSEY, who is on the faculty of the Army War College.

Professor Hammond, who teaches courses in problems of defense and national security policy at Yale, has produced a perceptive and comprehensive account of the changes which have occurred in U. S. defense organization during our century.

The first half of his book deals with World War II and prewar experience. The author has supplied an interpretation for "the triumph of the general staff" which rests upon the alliance, beginning with Stimson and Wood in 1910-11, between the Secretary of War and the Chief of Staff. In his view, this Secretary-Chief alliance constituted the primary feature of War Department administration, culminating in the reorganization of 1946. The alliance was predicated on the mutual interest of the Secretary and the Chief in presenting a unified front before the challenges of Congress and of insubordinate autonomous bureaus of the War Department.

The account of the development of naval administration from the beginning of the century through World War II is of particular interest to the Army reader.

The second half, dealing with postwar developments, is an objective account of the continuing process of unification. It constitutes a useful follow-up to the pioneer contribution of Colonel Lawrence J. Legere's 1950 doctoral dissertation at Harvard.

Of special interest is an extended treatment of our World War II experience with the Joint Chiefs of Staff which, in the author's view,

"revealed important and apparently inherent defects in the institution."

Professor Hammond characterizes the JCS system, both during the war and since, as a "closed staff." By this he means that the Joint Chiefs have managed to present a common front, without revealing how its divergent viewpoints have been reconciled. So long as the JCS is composed of service representatives, the impulse to keep the systems closed is inescapable.

As for the future, the author proceeds on the premise that the question is not whether unification will continue, but whether the process is too fast or too slow. "Gradually, and with a finesse which demands respect, the services are being dismembered and disembowelled, so that the question of their utility is decided continually in decrements."

The most significant developments contributing to the further centralization of the Department of Defense are, according to Professor Hammond, the placing of JCS in the chain of operational command and, of even greater importance, the strengthening of the powers of its Chairman. He concludes that the Chairman, when supported by the Secretary of Defense, has powers which go well beyond his formal responsibilities. "He is . . . in a position to be powerful but irresponsible—or at least irresponsible."

While the author demonstrates a sensitive awareness to the expanding influence of the Chairman, especially since 1953, and cites the more significant evidence, he overlooks two revealing episodes. The first was a directive issued by Secretary Wilson in July 1954, in which the Chairman was given the authority and responsibility "when he has a separate view on matters of importance, to forward to the

Secretary of Defense his own views, advice and recommendations, as well as the views, advice and recommendations of the other members." A second instance of the growing predominance of the Chairman was the reported proposal by Admiral Radford in 1956 to short-circuit the committee structure of JCS by having the reports prepared by the Joint Staff go directly to the Chiefs.

Organizing for Defense proposes no solutions to the problem of defense organization. It attempts to interpret the past and to analyze current trends. The book is somewhat repetitious, but on the whole it is a substantial contribution to the literature on the subject. For the present, it is clearly the most definitive single source for studying our military departmental organization during this century.

FIGHTING INSURGENTS

STREET WITHOUT JOY. Bernard B. Fall. The Stackpole Company. 322 Pages; Illustrated; Maps; Index; \$4.95.

THE HUK CAMPAIGN OF THE PHILIPPINES. Col. Uldarico S. Bacalagon. Colcol & Company. 272 Pages; Illustrated; Maps; \$4.50.

Reviewed by

MAJ. CHARLES D. W. CANHAM II, an instructor in the Counter-Insurgency Department, Special Warfare School.

These two books offer many contrasts, by far the most important being that Colonel Bacalagon outlines a successful campaign against insurgents while Dr. Fall recounts an unsuccessful one. Such operations are so characterized by important political, social and economic factors that Dr. Fall is able to make the point that despite the unsuccessful military operations, the French effort in Indochina was not totally wasted. It had the political effect of bringing freedom to about 20 million persons out of 35 million, and of saving from Communist domination 223,000 square miles out of 285,000.

One great contrast in the backgrounds of these two conflicts is that the Filipino forces fought in their homeland, whereas the French were aliens and the Communist-led Vietminh were fish in a friendly sea. Another is that the Huks had

Selected Check List of the Month's Books

This is a run-down of some of the books we have recently received

COMPANY COMMANDER. Charles B. MacDonald. Ballantine Books. 310 Pages; Paper, \$.75. The long-awaited annotated reprint of the finest combat experience narrative of World War II. Has been translated into Spanish, Hebrew, and Norwegian.

FIFTEEN DECISIVE BATTLES OF THE UNITED STATES. Orland K. Armstrong. Longmans, Green & Company. 370 Pages; Maps; Index; \$5.95. In the author's opinion, these are some: Oglethorpe against the Spanish, Wolfe at Quebec, Vicksburg, Gettysburg, Dewey at Manila, the Army and Navy in World War II, and the defeat of the Luftwaffe.

GUN DIGEST 1962, 16th Annual Edition. John T. Amber, ed. Gun Digest Association. 384 Pages; Illustrated; Index; \$3.95. Reviews of previous editions have been uniformly favorable, and there is no reason to change. The cover says "Biggest and Best . . . Ever"—and it's right. Particularly notable for its blending of history and the latest on today's arms.

NRA ILLUSTRATED SHOOTING HANDBOOK. National Rifle Association. 224 Pages; Illustrated; Index; \$4.50. Designed as a help to shooters in all stages, from beginners to old hands, this huge volume offers the advantage of authenticity and clarity found in the pages of *The American Rifleman*, from which all the material is reprinted. A fine reference work, as well as a good text.

THE PISTOL SHOOTER'S BOOK. Col. Charles Askins. The Stackpole Company. 376 Pages; Illustrated; Index; \$8.50. One of the Army's topnotch coaches and firing-team members discusses all types of handguns, refitting for accuracy, eyesight, buck fever, fast draw, competition, calibers, showoff firing, police marksmanship, accessories, and many other topics.

REGIMENTAL PUBLICATIONS AND PERSONAL NARRATIVES OF THE CIVIL WAR. C. E. Dornbusch, compiler. New York Public Library. Vol. I in seven parts, including Index, \$15.00. A revision of and supplement to the section on military organizations in *Bibliography of State Participation in the Civil War*, the third edition of which was published in 1913. Includes regimental histories, publications of unit associations, and personal narratives. Titles of parts, which can be bought separately at \$2.50 each: I, Illinois; II, New York; III, New England; IV, New Jersey and Pennsylvania; V, Indiana and Ohio; VI, Iowa, Kansas, Michigan, Minnesota, Wisconsin; VII, Index of authors (\$2.00).

THE SANDS OF DUNKIRK. Richard Collier. E. P. Dutton & Company. 319 Pages; Illustrated; \$4.50. A you-are-there account of the experiences of participants and eyewitnesses. Appendixes include order of battle and statistics.

SINGAPORE: The Japanese Version. Col. Masanobu Tsuji. St. Martins Press. 358 Pages; Illustrated; Maps; Index; \$5.50. A Japanese reply to Churchill's account of the fall of Malaya and Singapore. The author was on Yamashita's staff, and besides recounting the strategy of the campaign includes details of the tactical operations. Excellent maps.

UNIFORM REGULATIONS FOR THE ARMY OF THE UNITED STATES, 1861. Curator of Military History, Smithsonian Institution. 61 Pages; Illustrated; Paper, \$1.00. A direct reproduction of the War Department regulations, including buttons, shoulder straps, chevrons, and branch insignia, with contemporary photos.

no contiguous active sanctuary such as the Vietminh enjoyed along the northern border of Indochina.

A third important contrast is the solutions attempted by the French and Filipinos. The latter centered their efforts on gaining the support of the local populace while training their soldiers to fight in the paddies and jungles by using the insurgents' own methods. The French, already handicapped by lack of empathy with the civilians, failed to create effective forces with which to bag the elusive Vietminh. Instead, they concentrated their efforts on Maginot Line type

of defenses, set-piece battles, and massive concentrations of men and equipment. As a result the combat intelligence differential (a function of civilian participation) so essential to victory in such operations, was on the side of the national forces in the Philippines and the Vietminh in Indochina.

Dr. Fall, member of the French resistance and subaltern in a Moroccan division during the liberation of France, personally financed a trip to Indochina in 1953 to gain first-hand knowledge of the struggle he describes. Being a Frenchman, he was able to accompany

combat elements of the French Union forces. He was also able to gain access to French Army records so that his account of the very events of the Indochina war bears the stamp of the participant, the scholar, the critic.

Fall writes in such a vivid style that his reader can sense the despair of those "who had to walk down the joyless and hopeless road that was the Indochina War." Skillfully he runs the reader through a gamut of emotions as though he were a participant in the eight-year carnage: the prideful feeling of professional competence of the individual soldier as he methodically checks his equipment in preparation for another "human sea" attack, the depression as the attacks continue, the grim determination of the bayonet counterattacks against overwhelming odds, and the joy of the few survivors who for days slog their way through kilometers of trackless jungle to finally reach safety.

The French answers to Vietminh successes are very aptly criticized. Fall explains with ample clarity, for any who will listen, that maneuvers by armored task forces, high-performance aircraft, or road-bound infantry cannot hope to succeed against insurgent forces in an area such as Indochina. The close to 95,000 men of the French Union forces who died there (including four generals and 1,300 lieutenants) amply testify to this fact.

All the U. S. and French heavy equipment, tanks, guns and planes were of little avail, for "in the monsoon jungles of Southeast Asia, there is no cheap substitute for the most expensive commodity of them all—the well trained combat infantryman; not the mass produced item of the divisional training camps so dear to the Korean War, but the patiently trained jungle fighter who will stay in the jungle—not on the edges of it—and who will out-stay the enemy if need be." The French finally came to understand this, and their special-forces type of units, capable of organizing, training and controlling the operations of bands of native fighters showed surprising staying and hitting power. Their employment was too little—and too late.

Colonel Baclagon's book is the

result of a re-examination of the Huk campaign made by the Infantry School of the Armed Forces of the Philippines. The backbone of this study is monographs by students who had fought the Huks. The end product lacks the polish and erudition of Dr. Fall's effort, but this does not detract from the importance of the book's message.

Each chapter deals with one important aspect of the fight against the Huk. The subjects of these chapters include intelligence, civilian cooperation, leadership, offensive, surprise, security, mobility, weather and terrain, deception, planning, coordination and training. Each chapter's discussion is liberally spiced with meaningful combat examples complete with pictures and sketch maps. At the end of each is a list of the lessons to be remembered and the titles of student treatises which deal with the chapter's subject.

Colonel Baclagon does not pretend to offer new principles of warfare against insurgents. Rather, he does attempt to illustrate the application of those time-honored principles necessary to fight a force which uses unorthodox methods.

These two works give the reader a fine introduction to the very important and timely subject of operations against insurgents.

FIRST-RATE BATTLE NARRATIVE

THE ROAD PAST MANDALAY. John Masters. Harper & Brothers. 341 Pages; Illustrated; Maps; \$5.00.

Reviewed by

RILEY SUNDERLAND, who has written of the U. S. Army's work in India and Burma.

John Masters was an officer in the 4th Prince of Wales's Own Gurkha Rifles, a career professional in a very good regiment. He commanded a brigade behind the Japanese lines in Burma and later was chief of staff of the 19th Indian Division in the fighting around Mandalay. Masters saw and did a great deal: saw with the novelist's eye, and did with the interest and style of the professional soldier.

Training, administration, schooling, leaves, and combat are experiences which, as Masters says, he shared with millions; but he was of the relatively few who had these experiences in Iran and Iraq and

India and Burma, and can tell of them superbly. As so often with the competent professional he has the knack of analyzing, reflecting, and teaching from his experience in war so that with skilled storytelling goes solid instruction in command and tactics.

The climax is his description of the fight for Blackpool, the block his brigade put along the Japanese line of communications to North Burma. The brigade was on air supply, the monsoon rains were about to begin. The Japanese took the block very seriously, while 111 Brigade was forced to defend a fixed position, for which they were not equipped nor intended, without the support of mobile units that had been contemplated. The first Japanese attempts were made with the utmost sacrificial courage; Masters tells how they were met until his opponents, quite simply, ran out of soldiers. A brief pause while the monsoon clouds gathered, then the Japanese struck again, this time professionally, with AA to halt the air supply. That was the end of ammunition resupply and casualty evacuation; it was time to go, through the jungle, through the rains, with sick, tired troops, and what casualties could be moved. The treatment of this Blackpool episode is first-rate. Other accounts of battle are as good, but it would be hard to find anything done better.

One flaw in Master's account of the Burma campaign is that he gives the impression of not checking his sources when he moves beyond his immediate sphere. He calls his work a factual story but not a history, a distinction that is not clear, for it seems to suggest that some facts are less factual than other facts. Thus, Masters has to deal with that bitter episode, Stilwell's relations with the British who fought behind the Japanese lines and with Merrill's Marauders. Where Charlton Ogburn in *The Marauders* is careful to check, Masters makes charges that one fears he would be very hard put to support. For example, whereas Ogburn notes that Stilwell told Merrill he knew he was asking more from the Marauders than he had a right to expect, Masters states that Stilwell noted their collapse "with understandable triumph."

Once past this part, which seems written in careless, angry haste, Masters is back on firmer ground and the story moves to the campaign's triumphant finish, the destruction of enemy power in Burma, all done with his usual skill. In all, this is a moving account of life in war, with one episode—the fight for Blackpool—that is unsurpassed.

DISEASES: VENEREAL AND OTHER

PREVENTIVE MEDICINE IN WORLD WAR II.

Volume V: Communicable Diseases Transmitted Through Contact or by Unknown Means. Office of The Surgeon General. 530 Pages; Illustrated; Index; \$5.75

Reviewed by

COL. DOUGLAS LINDSEY, who has reviewed other volumes of the official history of the Medical Department in World War II.

Scratch any soldier with the question "What diseases are spread by contact?" and he will start the list with "VD" even if he is unable to name a single runner-up. Such was the importance of venereal diseases in World War II that they occupy nearly half of this volume. The only close competitors are schistosomiasis, skin infections (scabies and athlete's foot), and viral hepatitis—each taking up about a quarter as much space as VD.

Every leader from corporal to general can recall the hounding and harassment that came with a high VD incidence rate. This volume will go far toward explaining how the ogre developed, and why it was so important in the first three years of the war. But it will leave unanswered the question of why it was considered so monstrous a problem for so long. In March 1941, venereal disease was the greatest single cause of noneffectiveness in the U. S. Army. By 1945 the incidence rate of gonorrhea was 50 per cent higher than in 1941, but the loss of time required to effect cure had been cut from three weeks to 2.4 days.

The Surgeon General's foreword states with respect to VD that "No one was completely satisfied either with the policies employed in World War II or with their results, but, in retrospect, it seems unlikely that anything much better could have been done" at the time. The War Department took a flat and



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unwavering stand against prostitution; and an unequivocal stand in favor of providing prophylactic measures and facilities. Many civilian moralists condemned it for the latter, but few civilian enforcement authorities supported it in the former. The Surgeon General forbade medical officers to inspect inmates of houses of prostitution. Yet it was considered eminently proper public-health procedure to locate and confirm suspected sources of infection and to eliminate their disease; that is, to round up the whores, diagnose their illnesses, and treat them at Government expense.

With affairs in such a state it is not surprising that overseas commanders, facing up to the cold (and hot) facts of life, sometimes essayed solutions to the problem which were not within the letter of regulations. The volume is forthright in its documentation of the number of "houses" which were "selected," "set aside," "reserved," or "put into operation" for the benefit of U.S. Army troops. Nor is it surprising that the results were not good, at least not from the standpoints of either the medics or the chaplains.

With the antibiotics available today, venereal diseases should never again cause major losses of military manpower. For some of the diseases spread by contact there never was a problem, and probably never will be; the volume catalogs the experience dutifully, but with such qualifications as "seldom disabling," "small chance of contact," "of minor importance," "never disturbed the effectiveness of command," or "relatively insignificant." But for some of the other diseases covered in this volume it is not easy to be so confident. Schistosomiasis is still a great threat (see ARMY, August 1961). Hepatitis "furnished the most unexpected, and perhaps the most serious, problem of all the diseases" in this group; it can surprise us and embarrass us again. And the skin is still inconveniently susceptible to all sorts of conditions which will incapacitate men who must campaign in the strategic sore spots of the world.

The professional soldier would do well to review the military potential of diseases transmitted through contact.

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